

DEPARTMENT OF RAILWAYS AND CANALS

# CANAL STATISTICS

FOR THE

SEASON OF NAVIGATION

1912

*PRINTED BY ORDER OF PARLIAMENT*



OTTAWA

PRINTED BY C. H. PARMELEE, PRINTER TO THE KING'S MOST  
EXCELLENT MAJESTY

1913

[No. 20a—1913.]







*To Field Marshal His Royal Highness PRINCE ARTHUR WILLIAM PATRICK ALBERT, Duke of Connaught and of Strathearn; Earl of Sussex, (in the Peerage of the United Kingdom), Prince of the United Kingdom of Great Britain and Ireland ; Duke of Saxony ; Prince of Saxe-Cobourg and Gotha ; Knight of the Most Noble Order of the Garter ; Knight of the Most Ancient and Most Noble Order of the Thistle ; Knight of the Most Illustrious Order of Saint Patrick ; a Member of the Most Honourable Privy Council ; Great Master of the Most Honourable Order of the Bath ; Knight Grand Commander of the Most Exalted Order of the Star of India ; Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George ; Knight Grand Commander of the Most Eminent Order of the Indian Empire ; Knight Grand Cross of the Royal Victorian Order ; Personal Aide-de-Camp to His Majesty the King ; Governor General and Commander-in-Chief of the Dominion of Canada.*

MAY IT PLEASE YOUR ROYAL HIGHNESS,—

The undersigned has the honour to present to Your Royal Highness Canal Statistics, for the year ended December 31, 1912.

All of which is respectfully submitted.

F. COCHRANE,  
*Minister of Railways and Canals.*







To the Honorable F. COCHRANE,  
Minister of Railways and Canals.

SIR,—I have the honour to submit the annual report of the Comptroller of Statistics in relation to the operations of the Canals of the Dominion for the year ended December 31, 1912.

I have the honour to be, sir,

Your obedient servant,

A. W. CAMPBELL,  
*Deputy Minister of Railways and Canals.*







OFFICE OF THE COMPTROLLER OF STATISTICS.  
OTTAWA, FEBRUARY 15, 1913.

A. W. CAMPBELL, Esq., C.E.,  
Deputy Minister of Railways and Canals.

SIR,—I have the honour to submit to you herewith Canal Statistics for the year ended December 31, 1912.

The total volume of traffic through the canals of the Dominion was 47,587,245 tons, distributed as follows :—

	Tons.	Increase.	Decrease.
Sault Ste. Marie.....	39,669,655	8,717,946	.....
Welland.....	2,851,915	314,286	.....
St. Lawrence.....	3,477,188	371,480	.....
Chambly.....	618,415	18,586	.....
St. Peter's.....	74,809	.....	489
Murray.....	170,081	6,624	.....
Ottawa.....	392,350	72,279	.....
Rideau.....	160,133	.....	12,094
Trent.....	77,150	19,860	.....
St. Andrew's.....	95,549	48,414	.....
Total.....	47,587,245	9,569,475	12,583

It will be observed that the increment for the year 1912, as compared with 1911, was 9,556,892 tons. This was equal to 25·1 per cent.

It must not be assumed that the net business of the canals amounted to 47,587,245 tons. There is duplication to the extent of several million tons, and unavoidably so. For example, all traffic between Fort William and Montreal is first credited to the canal at Sault Ste. Marie, then to the Welland canal, and finally to the St. Lawrence canals. In the same way, freight shipped from Ottawa to New York finds a place first in the returns of the Ottawa River canals, next the Lachine canal, and lastly in the Chambly canal. This situation is not essentially different from that which arises with regard to railway traffic, and, as has been said, is inseparable from the statistical system which has long been in vogue. In dealing with the question of the average freight rate on the inland waters of Canada on a page further along, the actual net tonnage will be indicated.

The following statement shows the growth of traffic through the canals of Canada during the past decade :—

1903.....	9,203,817	Tons.
1904.. .	8,256,236	"
1905.....	9,371,744	"
1906.....	10,523,185	"
1907.....	20,543,639	"
1908.....	17,502,820	"
1909.....	33,720,748	"
1910.....	42,990,608	"
1911.....	38,030,353	"
1912.....	47,587,245	"

It will be seen that the expansion for the ten year period between 1903 and 1912 was equal to 417 per cent.



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The following comparative statement of traffic will show on what canals the growth has taken place during the past four years :—

	1909.	1910.	1911.	1912.
Sault Ste. Marie .....	27,861,245	36,395,687	30,951,709	39,669,655
Welland.....	2,025,951	2,326,290	2,537,629	2,851,915
St. Lawrence..	2,410,629	2,760,752	3,105,708	3,477,188
Chambly.....	752,117	669,299	599,829	618,415
St. Peter's .....	79,850	85,951	75,298	74,809
Murray.....	102,291	177,941	163,457	170,081
Ottawa .....	336,939	385,261	320,071	392,350
Rideau.....	91,774	134,881	172,227	160,133
Trent.....	59,952	46,263	57,290	77,150
St. Andrew's.....		8,283	47,135	95,549

Details of traffic, showing the tonnage of commodities, will be found in tables constituting the body of this report. Comparing the years 1911 and 1912, following was the tonnage by classes and canals :—

Canals.	Agricultural Products.	Animal Products.	Manu- factures.	Products of Forest.	Products of Mines.	Total.
1911.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Sault Ste. Marie .....	3,219,929	978	854,516	56,853	26,819,433	30,951,709
Welland.....	1,089,605	574	539,865	250,423	657,162	2,537,629
St. Lawrence. ....	1,003,090	9,943	557,992	551,155	983,528	3,105,708
Chambly. ....	41,903	315	25,370	396,704	135,537	599,829
St. Peter's. ....	16,538	2,153	11,828	7,120	37,659	75,298
Murray .....	1,109	113	143,399	1,622	17,214	163,457
Ottawa .....	9,779	2,467	65,452	202,797	39,576	320,071
Rideau.....	6,084	2,684	114,937	34,350	14,172	172,227
Trent.....	951	397	12,551	31,342	12,049	57,290
St. Andrew's.....	82		33,153	13,773	127	47,135
Total.....	5,389,070	19,624	2,359,063	1,546,139	28,716,457	38,030,353
1912.						
Sault Ste. Marie.....	4,530,792	372	975,303	54,114	34,109,074	39,669,655
Welland.....	1,205,912	678	625,569	227,684	792,072	2,851,915
St. Lawrence .....	1,119,567	9,375	464,091	578,760	1,305,395	3,477,188
Chambly .....	19,706	338	11,600	425,313	161,458	618,415
St. Peter's .....	15,427	2,996	7,583	11,161	37,642	74,809
Murray .....	448	37	101,511	706	67,379	170,081
Ottawa .....	5,278	2,880	20,958	226,600	136,634	392,350
Rideau.....	3,995	3,151	18,814	28,642	105,531	160,133
Trent.....	2,514	361	3,459	67,489	3,327	77,150
St. Andrew's .....	37		60	14,153	81,299	95,549
Total.....	6,903,676	20,188	2,228,948	1,634,622	36,799,811	47,587,245



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The ratio which each of the foregoing classes bore to the total volume of traffic during the past three years is shown in the following statement :—

	1910.	1911.	1912.
	Per cent.	Per cent.	Per cent.
Agricultural products.. .. .	10.2	14.2	14.51
Animal " .. .	1.2	.1	.04
Manufactures.....	5.2	6.2	4.68
Produce of forests. ....	3.9	4.0	3.43
Produce of mines.....	79.5	75.5	77.34

## CANADIAN AND AMERICAN TRAFFIC.

Until the year 1908 a separation was not made as between Canadian and American traffic. Since that date a record has been kept of the country of origin, as far as the canals of Canada are concerned.

The facts with respect to vessel tonnage and freight tonnage during the past five years are given in the following table :—

Year.	Canadian Vessels.		U. S. Vessels.		Freight Tonnage.		
	No.	Tonnage	No.	Tonnage.	Canadian.	United States.	Total.
1908.....	29,040	6,780,789	7,489	4,835,320	5,012,147	12,490,673	17,502,820
1909 .....	22,507	7,811,578	9,996	16,459,322	7,378,057	26,342,691	33,720,748
1910.....	25,337	8,931,790	11,462	21,777,297	7,883,614	35,106,994	42,990,608
1911.....	25,585	9,172,192	10,370	18,231,622	7,792,907	30,237,446	38,030,353
1912.....	27,371	10,237,335	11,785	24,636,190	9,376,529	38,210,716	47,587,245

The proportions of freight tonnage originating in Canada and the United States during the five years for which the facts are available, have been as follows :—

Year.	Canadian Per Cent.	American Per Cent.
1908 .....	28.7	71.3
1909.....	21.8	78.2
1910 .....	18.3	81.7
1911.....	20.5	79.5
1912 .....	19.7	80.3

The large and growing difference between the traffic of Canada and the traffic of the United States through the canals of Canada, arises almost wholly at Sault Ste. Marie. For example, in 1912 the proportion of strictly Canadian traffic which passed through the Canadian canal at Sault Ste. Marie was 10.3, and the traffic of that canal represented 83 per cent of the total for the whole Dominion. Of the American traffic which passed through the Canadian canal at Sault Ste. Marie in 1912, iron ore constituted over 87 per cent. In other words, out of 35,579,293 tons of American traffic at Sault Ste. Marie, 31,141,063 tons was made up of iron ore.

The situation changes at the Welland. In 1912, out of a total of 2,851,915 tons, Canadian traffic aggregated 1,553,116 tons, or 54 per cent. The St. Lawrence canals



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during the same period showed 2,340,143 tons of Canadian business, out of a total of 3,477,188, or 67 per cent.

The facts with regard to vessel tonnage will be found on a succeeding page. The proportions in 1912 were : Canadian, 29·36 per cent.; American, 70·64 per cent.

## TRANSPORTATION OF CANADIAN WHEAT.

The rapid settlement of the Western provinces has created a steadily deepening interest in the movement of Canadian wheat. From 1895 down to 1909 a separation of Canadian and American products was not made in Canal Statistics ; but since the latter year a careful record has been made of the facts in that regard. The following shows the volume of Canadian wheat brought down through the Canadian canal at Sault Ste. Marie :—

	Bushels.
1895 .....	4,518,334
1896 .....	19,314,234
1897 .....	17,925,834
1898 .....	9,746,600
1899 .....	12,759,634
1900 .....	9,292,034
1901 .....	9,639,534
1902 .....	27,912,500
1903 .....	32,233,934
1904 .....	29,794,100
1905 .....	25,983,100
1906 .....	34,389,300
1907 .....	49,399,967
1908 .....	58,574,034
1909 .....	*48,047,833
1910 .....	51,774,833
1911 .....	63,641,000
1912 .....	83,743,034

\*For the first time represents Canadian wheat only. The figures of preceding years include American wheat which passed through the Canadian canal.

The foregoing figures do not represent the total volume of Canadian wheat which came down from the Northwest in 1912. They have reference wholly to the number of bushels which passed through the Canadian canal at Sault Ste. Marie. There came through the American canal at that point 23,020,833 bushels. It was also ascertained from the Customs Department that 10,724,498 bushels of Canadian wheat went out from Duluth in 1912 in bond. Of this latter quantity 7,646,634 bushels had been accounted for in the totals of the two canals at Sault Ste. Marie, leaving 3,078,264 to be added to the figures just given. The total quantity of Canadian wheat moved by water in 1912 would therefore be 109,842,031 bushels, as compared with 65,622,481 bushels moved in 1911.

Without reference to which of the two canals was used at Sault Ste. Marie, the account with respect to Canadian wheat might be presented in this form :—

From Fort William.....	99,117,233 bushels
From Duluth, in bond.....	10,724,798 do
Total .....	109,842,031 do

The account is still incomplete. Canadian flour to the amount of 2,828,980 barrels passed through the Canadian and American canals at Sault Ste. Marie, and, allowing five bushels of wheat to the barrel, this would mean an addition of 14,144,900 bushels, bringing the final total of Canadian waterborne wheat up to 123,986,931 bushels.



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An analysis of the distribution of Canadian wheat after it had passed through the Canadian and American canals at Sault Ste. Marie, was this year made from the ships' reports filed at both offices. For several years past the facts had been gathered only with respect to the Canadian canal. In 1912 copies were procured of all ships' reports taken at the American canal; so that more comprehensive figures are this year made available. Taking first the Canadian canal, following was the distribution of Canadian wheat in 1912 :—

	Bushels.
Fort William to Montreal.....	13,726,166
“ Georgian bay.....	17,648,334
“ other Canadian ports.....	19,676,100
“ Buffalo.....	25,045,806
Duluth to Montreal.....	283,500
“ Buffalo.....	5,714,367
“ Georgian bay.....	1,418,767
“ other Canadian ports.....	230,000
Total.....	83,743,034

Through the American canal at Sault Ste. Marie the distribution of Canadian wheat in 1912 was as follows :—

	Bushels.
Fort William to Montreal.....	1,202,933
“ Georgian bay.....	1,852,834
“ other Canadian ports.....	782,600
“ Buffalo.....	19,182,466
Total.....	23,020,833

Adding 3,078,264 bushels of Canadian wheat from Duluth, which could not be classified, owing to the form in which the American records are kept at Sault Ste. Marie, the total of 109,842,131 is accounted for.

Joining the two accounts, the distribution of Canadian wheat for 1912 assumes the following shape :—

Canadian Wheat.	Bushels.	Per cent.
Fort William to Montreal.....	14,929,099	13·6
“ Georgian bay.....	19,501,168	17·8
“ other Canadian ports.....	20,458,700	18·6
“ Buffalo.....	44,228,266	40·2
Duluth to Montreal....	283,500	·2
“ Georgian bay.....	1,418,767	1·3
“ other Canadian ports.....	230,000	·2
“ Buffalo.....	5,714,367	5·2
“ unclassified.....	3,078,164	2·9
Total ..	109,842,031	

The “other Canadian Ports” referred to in the above statement are ports between Georgian bay and Lake Ontario.

It will be seen that exactly fifty per cent of all the Canadian wheat which came down by water in 1912, followed wholly Canadian channels.



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In order that a comparison may be made with the facts in preceding years, the following table is brought down to the end of 1912 :—

Canadian Wheat.	1909.	1910.	1911.	1912.
	Bushels.	Bushels.	Bushels.	Bushels.
Fort William to Montreal.....	10,517,266	13,185,370	12,761,666	14,929,099
" " " Georgian bay.....	13,384,400	12,753,200	9,881,234	19,501,168
" " " other Canadian ports.....	10,149,633	9,603,400	11,880,666	20,458,700
" " " Buffalo.....	12,841,334	15,693,363	27,945,600	44,228,266
Duluth to Montreal.....	520,000	315,000		283,500
" Buffalo.....	528,200	224,500	710,334	5,714,367
" Georgian bay.....	28,000		461,509	1,418,767
" other Canadian ports.....	79,000			230,000
" unclassified.....				3,078,164
Total.....	48,047,833	51,774,833	63,641,000	109,842,031
Through American canal.....	9,117,328	5,321,446	1,981,481	
Grand total...	57,165,161	57,096,279	65,622,481	109,842,031

The following statement of percentages presents the foregoing tables in a convenient form for purposes of comparison :—

Canadian Wheat.	1909.	1910.	1911.	1912.
	Per cent.	Per cent.	Per cent.	Per cent.
Fort William to Montreal.....	21·9	25·5	20·1	13·6
" " " Georgian bay.....	27·9	24·6	15·6	17·8
" " " other Canadian ports.....	21·1	18·5	18·7	18·6
" " " Buffalo.....	26·7	30·3	43·8	40·2
Duluth to Canadian ports.....	1·3	·6	·7	1·7
" American ports.....	1·1	·5	1·1	5·2
" unclassified.....				2·9

In a succeeding paragraph facts will be presented which may explain in some measure the conditions which have operated in the movement of Canadian wheat.

FREIGHT RATES BY WATER.

In Canal Statistics for 1911, it was intimated that plans had been perfected for the ascertaining of the average rate per ton per mile on the inland waters of Canada. These plans involved the recording of the freight rate on each ship's report filed at the various canal offices. As an alternative those operators who wished to do so were permitted to send a monthly statement to Ottawa of tonnage, mileage and gross freight earnings. Ship owners were also required to send in at the close of the season a report showing :—

- Total tons carried.
- Total ton mileage of loaded vessels.
- Gross receipts from freight.

On the whole, and having regard to the difficulties which are inseparable from the inauguration of new undertakings of that character, the results were satisfactory. For example, out of a net Canadian tonnage of 6,942,278, definite information was received with regard to the mileage and freight earnings on 6,292,661 tons. St. Peters and St. Andrews canals were left out of the scheme for the year 1912, and they accounted for 170,358 tons; so that the actual net Canadian tonnage affected was 6,771,920.



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Returns were thus received in relation to 93 per cent of Canadian business. These returns covered all classes of traffic, and it might reasonably be assumed that had every ton been accounted for, the result would not have been altered.

The Canadian returns applied to 6,292,661 tons of freight, to 3,236,187,160 ton miles, and to gross freight earnings amounting to \$6,378,893.43.

From American shipping companies reports were received covering 26,030,661 tons, out of a total net tonnage of 36,840,812. These reports had reference to all classes of commodities, and were thoroughly typical of the whole business on inland waters of Canada. It may be confidently asserted that absolutely complete returns would not have materially affected the final calculation of the average rate per ton per mile. The number of ton miles accounted for amounted to 21,799,392,809, and the gross earnings on American freight to \$14,617,368.60.

Using the factors which have been indicated—the ton mileage and the gross earnings from freight—the results are as follows:—

## Canadian traffic:—

Average rate per ton.....	91·04 cents.
“ “ per mile.....	0·191 “

## American traffic:—

Average rate per ton.....	56·62 cents.
“ “ per mile.....	0·067 “

Without an explanation, the difference between the Canadian and American rate per ton per mile will not be understood. Of the 36,840,812 tons of American traffic through the canals of Canada in 1912, no less than 31,134,251 tons, or nearly 85 per cent, consisted of iron ore. Upbound coal accounted for a further 2,945,441 tons, or 8 per cent. In fact, if iron and coal were eliminated from the total account, the volume of Canadian traffic would exceed the American.

The transportation of iron ore and coal is a special feature of the trade of the Great Lakes. Most of the ore is carried by the vessels of the Pittsburg Steamship Company and the rate in 1912 was 55 cents per ton from the head of Lake Superior to ports on Lake Erie. These vessels are owned and operated by the iron interests of Pittsburg, and do not carry other commodities than ore and coal—ore down and coal up. For this upbound coal, without regard to ownership of the vessels, the rate last year was 30 cents per ton. Thus, while wheat was being carried to Buffalo at as high a rate as 2·616 cents per ton per mile, iron ore was passing over the same route at ·063. Coal was being moved upward at the still lower rate of ·046 per ton per mile. In a word, any analysis of freight rates on the inland waters of Canada would be misleading which failed to recognize, and to separate for special treatment, this overwhelming movement of ore and coal under the conditions indicated.

The movement of Canadian wheat during the season of 1912 has been discussed in a preceding division of this report. There remains the matter of the freight rate on that important commodity.

Special care was taken during the year to ascertain with accuracy the rates which were charged on waterborne wheat. The facts in that regard were carefully tabulated. They yielded the following results:—

## Fort William to Buffalo:

Per ton per mile.....	·103 cent
Per bushel.....	2·863 “

## Fort William to Georgian bay:

Per ton per mile.....	·163 cent
Per bushel.....	2·629 “

## Fort William to other Canadian ports:

Per ton per mile.....	·115 cent
Per bushel.....	2·384 “



Fort William to Montreal :

Per ton per mile.....	·160 cent
Per bushel.....	5·774 "

The lowest rate prevailed in May, and the highest in December. The rates per ton per mile and per bushel in these months were as follow :

	MAY.		DECEMBER.	
	Per ton per mile	Per Bushel.	Per ton per mile.	Per Bushel.
	cent.	cents.	cent.	cents.
Fort William to Buffalo.....	·106	2·719	·150	3·905
" " " Georgian bay .....	·012	1·835	·259	3·967
" " " Other Canadian ports.....	·099	2·012	·232	4·403
" " " Montreal.....	·147	5·444	·193	7·129

There was not any wheat actually brought down from Fort William to Montreal in December ; and the rates in the foregoing table are for November. The largest volume of wheat moved between Fort William and Montreal occurred in October, when the average rates were ·184 per ton per mile and 6·149 cents per bushel. For the same month the rates from Fort William to Buffalo were ·084 per ton per mile, and 2·259 cents per bushel. The maximum rate of the season between Fort William and Montreal was in effect in November, and was 8 cents per bushel.

To measure the conditions which influenced the movement of Canadian wheat to Montreal or Buffalo, it is necessary to know the freight rate on wheat from Buffalo to the Atlantic seaboard during 1912. It was officially ascertained from the Buffalo Chamber of Commerce, under date of 14th February, 1913, that these rates per bushel were : May to end of September, on lake wheat for export, 4½ cents ; in October 5½ cents ; after fifteenth November, six cents.

Thus, the all water rate from Fort William to Montreal in May was 5·444 cents per bushel, and the combined water and rail rate from Fort William to the American seaboard (say New York) was 7·219 cents. In November, the water rate from Fort William to Montreal was 7·129 cents per bushel, and the combined water and rail rate from Fort William to the American seaboard, via Buffalo, was 8·616 cents. The apparent difference in favour of Montreal was 1·765 cents per bushel in May, and 1·487 cents in November, so far as the rates of freight were concerned.

There remains to be presented the facts with respect to traffic by way of Fort William and Georgian bay ports. The average rate for the season was 2·629 cents per bushel. It was officially ascertained that the rail rates from Georgian bay to Montreal were as follows :—

C.P.R. ....	6c. per bushel
G.T.R., Jan. 1st to June 30th.....	5c. " "
" July 1st to Sept. 30th.....	4c. " "
" Oct. 1st to Dec. 31st.....	5c. " "

Speaking broadly, it might be assumed that the combined water and rail rate is adjusted to practically equal the all-water rate.

In Canal Statistics for 1911 the causes which operated to divert a large percentage of Canadian wheat from Canadian to American channels, despite the lower transportation cost between Fort William and Montreal, were discussed. Among them were :



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The availability of ocean tonnage at New York, the consideration of time in making delivery at foreign ports, and the rates of marine insurance. It is obvious that these causes must have continued to operate effectively in 1912.

RAIL AND WATER RATES.

The question is frequently, and quite naturally, asked: How do freight rates by water compare with freight rates by rail? It has always seemed to me, as the officer of this Department in charge of transportation statistics, that data should be available which would permit such a comparison to be fairly made; but the question will never be fully and satisfactorily answered until carriers by water are required to report in precisely the way railways are asked to do.

This year, for the first time, accurate information has been obtained with regard to the average rate per ton per mile on the waterborne traffic of the Great Lakes. That rate, so far as Canadian business was concerned, was found to be .194 cent. It is pointed out, however, that this rate does not take cognizance of the special conditions under which traffic on the inland waters of Canada is conducted, and that the contribution of Government should be taken into the reckoning. There is pertinency in such a contention. It would seem, at all events, to be proper to include the interest charge on the capital cost of the canals and the annual outlay by Government for up-keep. The facts in that regard are definitely known. This plan omits all expenditures for harbours, lighthouses, dredging, buoying, &c., which might be included; but, whether they should be included or not, the matter is ruled out for the time being by reason of the fact that the sum of such expenditures is not definitely known.

The capital cost of the canals connected with the inland waters of Canada was, up to the 31st of March last, \$103,400,588.64. The details will be found on a succeeding page. The interest on this capital sum, at 3½ per cent, would be \$3,619,021. The cost of maintenance of the Canadian canal system for the year ended 31st March, 1912, was \$1,725,737.46. These sums added together give a total of \$5,344,758.46. Assuming, as may be fairly done, that the entire Canadian business through the canals of Canada last year was on the basis of the ascertained rate, by a simple calculation it may be demonstrated that the contribution to the freight rate by Government amounted to 76.99 cents per ton, or .140 cent per ton per mile. The sum would then stand as follows:—

	Ton.	Ton per Mile.
	Cent.	Cent.
Actual freight rate .....	91.04	.194
Government contribution.....	76.99	.140
Total.....	\$1.6803	.334

It has been ascertained through official channels that the rail rate of the Canadian Pacific on wheat from Fort William to Montreal is 12 cents per bushel. The distance is 995 miles. This rate would thus be equal to \$4 per ton, or .402 cent per ton per mile. The average water rate on a bushel of wheat from Fort William to Montreal in 1912 was 5.774 cents, or \$1.92 per ton. The addition of the Government contribution of .140 per ton per mile to the water rate between Fort William and Montreal would be equal to \$1.72 per ton. Adding \$1.92 and \$1.72 together, we have a total water rate of \$3.64 per ton, as compared with \$4 per ton by rail.

The average rate per ton per mile of all the railways of Canada for the year ended June 30, 1912, was .757 cent. It is therefore manifest that water rates, plus the



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Government contribution to canal service, were lower than rail rates in 1912. It is also equally clear, from a study of the transportation problem as a whole, that there are other factors than the freight rate which operate to direct the movement of traffic in any particular channel.

#### INSURANCE RATES.

For the season of 1912 the insurance rates in force on the inland waters of Canada were as follows :—

On the insurable value of the hull, covering all risks from the head of the lakes down to the foot of Lake Erie,  $5\frac{3}{4}$  per cent. An additional one per cent was charged on vessels moving as far east as Ogdensburg, and a further one per cent was payable from Ogdensburg to Montreal. Thus the rate on a vessel voyaging from Fort William to Montreal was  $7\frac{3}{4}$  per cent. A still further charge of one-half per cent was imposed on vessels outside of the Lakes Protective Association of Cleveland, or the Canadian Lake Protective Association.

#### GENERAL STATISTICS.

The following tabular statements will afford general information with respect to the business of the canals of Canada since 1887 :—



STATEMENT of Total Freight passed through the Canals for the following years.

Years.	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.		FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		TOTAL TONS.
	Down.		Down.		Down.		Down.		Down.		
	Up.	Tons.	Up.	Tons.	Up.	Tons.	Up.	Tons.	Up.	Tons.	
1887.....	336,648	1,154,424	138,692	202,563	151,805	192,528	86,374	457,482	713,519	2,006,997	2,720,516
1888.....	355,165	1,146,260	138,127	174,239	214,407	223,429	81,611	428,357	789,310	1,972,287	2,761,597
1889.....	384,777	1,156,306	122,295	198,497	267,224	300,193	81,243	603,311	855,529	2,258,367	3,113,896
1890.....	369,593	1,137,011	144,368	133,188	216,813	320,324	58,709	533,021	789,505	2,123,542	2,913,047
1891.....	370,120	1,155,247	103,814	123,193	248,188	307,958	50,747	543,259	772,869	2,129,657	2,902,526
1892.....	327,560	1,322,137	173,538	135,787	241,034	302,983	47,396	481,301	789,528	2,242,208	3,031,736
1893.....	351,706	1,344,822	214,076	141,602	247,329	385,769	54,912	806,773	868,023	2,678,966	3,546,989
1894.....	299,155	1,140,606	204,175	89,614	231,172	363,107	46,020	568,866	780,522	2,162,193	2,942,715
1895.....	264,824	1,070,046	286,191	91,177	362,637	608,778	62,285	590,140	975,937	2,360,141	3,336,078
1896.....	293,353	1,619,668	259,659	100,519	1,197,245	3,536,054	117,535	867,040	1,867,792	6,123,281	7,991,073
1897.....	275,587	1,713,274	268,700	187,960	669,142	4,369,314	108,787	968,203	1,322,216	7,238,751	8,560,967
1898.....	263,989	1,819,887	187,253	98,967	829,508	2,425,121	81,615	912,135	1,362,365	5,256,110	6,618,475
1899.....	296,208	1,833,412	266,364	115,133	732,030	2,129,988	125,678	727,111	1,420,280	4,805,644	6,225,924
1900.....	312,201	1,632,915	270,033	81,714	568,197	1,339,915	105,155	703,563	1,255,586	3,758,107	5,013,693
1901.....	340,805	1,686,094	268,449	201,231	507,204	1,801,696	177,715	682,065	1,294,173	4,371,086	5,665,259
1902.....	529,085	2,064,480	308,212	342,484	515,828	3,000,636	190,243	562,229	1,543,368	5,969,829	7,513,197
1903.....	648,150	2,391,366	430,174	408,500	863,337	3,130,816	373,456	958,018	2,315,117	6,888,700	9,203,817
1904.....	606,737	2,017,499	511,887	276,578	699,784	2,778,903	483,795	851,053	2,302,203	5,954,033	8,256,236
1905.....	736,976	2,252,514	549,365	347,089	607,228	3,183,895	577,528	1,137,146	2,451,097	6,920,647	9,371,744
1906.....	1,238,929	2,355,855	627,094	234,919	991,508	3,595,256	482,239	997,385	3,339,770	7,183,415	10,523,185
1907.....	1,034,733	3,162,158	891,692	226,138	1,991,959	11,060,878	819,369	1,356,712	4,737,753	15,805,886	20,543,639
1908.....	1,028,246	3,292,422	560,736	278,721	1,704,310	8,218,866	972,300	1,447,219	4,265,592	13,237,228	17,502,820
1909.....	1,608,659	3,504,849	1,060,715	607,894	1,985,522	22,385,226	1,023,829	1,544,054	5,744,349	27,976,399	33,720,748
1910.....	2,312,740	3,861,272	600,144	661,436	3,323,822	29,530,163	995,749	1,705,282	7,232,455	35,758,153	42,990,608
1911.....	2,370,516	3,910,558	572,470	995,719	2,546,677	23,458,256	2,086,777	2,089,380	7,576,440	30,453,913	38,030,353
1912.....	2,340,444	4,973,342	867,250	961,838	2,042,819	32,434,735	1,343,288	2,623,529	6,593,801	40,993,444	47,587,245

\* Sault Ste. Marie canal opened in August, 1895.



STATEMENT of the Tonnage of Canadian and United States Vessels for the following years.

CANADIAN VESSELS.

YEARS.	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.		FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		TOTAL TONS.	Number of Vessels.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up and Down.			
1887.....	1,201,529	1,194,665	162,554	36,277	1,071	65	30,778	221,013	1,395,932	1,452,020	2,847,952	18,991
1888.....	1,113,290	1,120,774	158,209	34,368	1,252	.....	22,553	189,876	1,295,304	1,345,018	2,640,322	17,661
1889.....	1,285,574	1,207,892	188,131	39,371	976	802	20,271	252,565	1,494,952	1,500,630	2,995,582	19,393
1890.....	1,314,127	1,250,999	229,478	32,909	929	351	14,003	296,676	1,558,537	1,580,935	3,139,472	20,655
1891.....	1,356,518	1,287,168	201,758	28,642	550	292	16,350	244,176	1,575,176	1,560,278	3,135,454	19,246
1892.....	1,517,249	1,460,505	177,136	29,184	1,466	394	14,659	201,374	1,710,510	1,691,455	3,401,965	21,177
1893.....	1,548,094	1,422,326	170,186	26,787	1,172	10	17,037	248,442	1,736,489	1,697,565	3,434,054	20,757
1894.....	1,319,792	1,260,907	217,635	19,298	2,177	5	6,394	222,696	1,545,998	1,502,906	3,048,904	19,027
1895.....	1,258,848	1,165,683	253,693	13,383	.....	.....	5,899	285,553	1,518,440	1,464,619	2,983,059	17,136
1896.....	1,547,757	1,420,342	200,292	5,234	157	.....	4,115	271,809	1,752,321	1,697,385	3,449,706	20,972
1897.....	1,629,192	1,482,951	215,785	11,378	.....	.....	3,533	297,898	1,848,510	1,792,227	3,640,737	21,466
1898.....	1,704,661	1,609,255	215,393	4,927	499	518	6,805	255,927	1,927,358	1,870,627	3,797,985	21,509
1899.....	1,865,643	1,774,789	242,817	32,436	925	3,691	42,290	345,980	2,151,675	2,156,896	4,308,571	23,575
1900.....	1,767,293	1,681,340	265,926	14,922	2,909	64	38,015	358,781	2,074,143	2,055,107	4,129,250	21,755
1901.....	1,615,952	1,587,221	279,007	82,541	3,300	2,908	97,332	312,003	1,995,591	1,984,673	3,980,264	20,860
1902.....	1,914,167	1,840,787	241,356	97,492	1,874	2,164	101,335	286,520	2,258,732	2,226,963	4,485,695	22,198
1903.....	2,061,258	2,088,969	340,383	143,614	7,018	3,082	188,896	379,612	2,597,555	2,615,277	5,212,832	23,767
1904.....	1,838,260	1,907,886	299,245	159,740	5,175	4,223	237,910	319,661	2,380,590	2,391,510	4,772,100	21,851
1905.....	2,059,097	2,031,766	312,773	188,138	11,820	3,191	262,401	322,005	2,646,091	2,545,100	5,191,191	23,726
1906.....	2,271,776	2,264,476	292,705	155,595	24,420	5,506	202,276	309,567	2,791,177	2,735,144	5,526,321	25,498
1907.....	2,561,948	2,661,317	337,822	129,246	9,153	7,331	238,172	333,922	3,147,095	3,181,816	6,328,911	28,833
1908.....	2,726,776	2,748,139	318,327	227,315	5,057	7,844	348,944	398,387	3,399,104	3,381,685	6,780,789	29,040
1909.....	3,335,187	2,992,403	300,320	217,989	82,591	111,236	257,945	513,907	3,976,043	3,835,535	7,811,578	22,507
1910.....	3,891,613	3,504,463	315,656	122,688	95,151	89,618	287,555	627,046	4,587,975	4,343,815	8,931,790	25,337
1911.....	3,997,073	3,646,516	333,500	176,690	8,499	2,332	393,012	614,570	4,732,084	4,440,108	9,172,192	25,585
1912.....	4,457,303	4,168,304	617,407	21,176	9,907	1,053	180,735	781,450	5,265,352	4,971,983	10,237,335	27,371



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## STATEMENT of the Tonnage of Canadian and United States Vessels for the following years.

## UNITED STATES VESSELS.

YEARS.	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.		FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		TOTAL TONS.	Number of Vessels.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
1887	16,265	17,925	38,857	56,708	143,730	140,562	52,793	98,849	251,645	315,035	566,680	3,883
1888	14,304	26,801	42,425	50,047	177,714	156,095	49,778	114,613	284,221	347,556	631,777	3,921
1889	21,125	26,449	55,996	50,732	253,088	206,567	56,249	160,442	386,458	444,190	830,648	4,542
1890	10,390	16,345	38,156	36,397	248,418	234,728	39,697	97,266	336,661	384,736	721,397	3,364
1891	10,357	29,851	70,665	27,727	283,013	238,818	31,083	146,602	395,118	442,998	838,116	3,602
1892	12,023	29,405	88,221	22,763	280,315	229,437	37,037	172,594	417,596	454,199	871,795	3,928
1893	10,752	34,303	214,047	33,741	351,994	282,724	50,994	307,740	627,787	658,508	1,286,295	4,585
1894	18,528	50,201	139,720	20,830	302,562	269,788	37,406	192,992	498,216	513,811	1,012,027	4,131
1895	8,838	24,768	138,554	17,712	262,240	216,542	32,295	185,730	441,927	444,752	886,679	4,427
1896	11,496	19,093	195,228	21,953	357,205	292,359	40,416	290,370	604,345	623,775	1,228,120	4,650
1897	14,666	18,367	269,430	17,618	338,938	277,345	26,341	347,698	649,375	661,028	1,310,403	4,675
1898	12,142	9,541	233,524	32,880	308,878	305,464	32,331	336,004	586,875	683,889	1,270,764	4,264
1899	17,217	18,044	172,897	30,002	1,605,887	1,156,503	51,902	234,336	1,846,848	1,438,885	3,285,733	6,101
1900	13,316	17,824	157,689	30,443	1,208,725	744,276	45,741	190,971	1,425,471	983,514	2,408,985	5,502
1901	11,587	18,706	177,169	28,124	922,464	1,044,707	54,895	224,622	1,166,115	1,316,159	2,482,274	5,634
1902	13,622	37,871	187,826	70,641	1,756,948	1,654,672	123,257	241,602	2,081,653	2,004,786	4,086,439	6,433
1903	14,014	24,168	265,208	65,247	1,736,187	1,689,414	106,401	335,836	2,121,810	2,114,665	4,236,475	6,695
1904	10,122	16,890	275,721	39,993	1,464,316	1,475,085	68,081	305,697	1,818,240	1,837,665	3,655,905	6,253
1905	19,743	19,444	364,985	81,876	2,350,494	1,701,704	101,536	456,459	2,836,758	2,259,483	5,096,241	7,085
1906	34,306	15,324	356,259	78,561	2,738,623	1,928,131	115,675	418,436	3,244,863	2,440,452	5,685,315	7,319
1907	57,349	72,018	304,591	72,048	4,739,053	5,876,060	205,769	623,941	5,463,767	6,141,067	11,604,834	9,328
1908	54,587	32,705	442,773	124,120	2,975,624	4,142,392	218,835	536,103	3,685,819	4,835,320	8,521,139	7,489
1909	263,592	109,407	442,176	200,202	4,178,378	10,429,514	213,750	621,903	5,098,196	11,361,126	16,459,322	9,996
1910	119,222	50,498	428,702	305,330	5,509,417	14,488,565	299,462	576,101	6,356,803	15,420,494	21,777,297	11,462
1911	49,778	12,643	626,897	576,313	3,348,936	12,057,484	709,084	850,487	4,734,695	13,496,927	18,231,622	10,370
1912	50,296	15,518	763,426	470,330	5,778,534	16,011,911	614,311	931,864	7,206,567	17,429,623	24,636,190	11,785



Vessel and Freight Tonnage passed through the Sault Ste. Marie Canal.

Years.	CANADIAN VESSELS.		U.S. VESSELS.		Total No.	Vessel Tonnage.	FREIGHT TONNAGE.			LOCKAGES	DAYS OPEN	Remarks.
	No.	Tonnage	No.	Tonnage.			Canadian.	United States.	Total.			
1895.....	609	126,534	583	623,092	1,192	749,626	.....	.....	595,837	699	87	Canal first operated Sept. 9, 1895.
1896.....	2,070	589,407	3,066	3,805,749	5,136	4,395,156	.....	.....	4,577,399	3,042	218	
1897.....	1,909	495,546	2,359	3,391,936	4,268	3,797,482	.....	.....	4,947,065	2,604	238	
1898.....	1,811	403,931	1,864	2,353,699	3,675	2,757,630	.....	.....	3,055,387	2,520	243	
1899.....	2,000	558,552	1,769	2,389,457	3,769	2,948,009	.....	.....	3,006,664	2,610	239	
1900.....	1,790	577,310	1,291	1,617,438	3,081	2,194,748	.....	.....	2,035,677	2,205	238	
1901.....	2,796	775,151	1,408	1,674,597	4,204	2,449,748	.....	.....	2,820,394	2,910	246	
1902.....	3,080	1,366,930	1,964	3,237,372	5,044	4,604,302	.....	.....	4,729,268	3,418	264	
1903.....	2,711	1,615,939	1,640	3,146,807	4,351	4,762,746	.....	.....	5,511,868	3,242	256	
1904.....	2,637	1,555,042	1,325	2,675,663	3,962	4,230,705	.....	.....	5,030,705	3,022	241	
1905.....	3,970	1,803,288	1,692	3,734,349	5,662	5,537,637	.....	.....	5,473,406	4,031	255	
1906.....	3,922	1,959,252	1,758	4,399,872	5,680	6,359,124	.....	.....	6,574,039	4,152	253	
1907.....	3,217	2,154,688	3,132	9,961,281	6,349	12,115,969	.....	.....	15,588,165	4,596	238	
1908.....	3,289	2,603,232	2,204	7,035,655	5,293	9,638,887	2,092,231	10,666,985	12,759,216	3,667	235	Origin of cargo first shown.
1909.....	2,597	2,988,936	3,734	14,850,738	6,331	17,839,674	3,366,495	24,494,750	27,861,245	5,046	240	
1910.....	2,744	3,173,494	5,228	20,187,704	7,972	23,361,198	3,345,619	33,050,068	36,395,687	6,116	248	
1911.....	2,713	3,108,880	4,068	16,252,340	6,781	19,361,220	3,177,581	27,774,128	30,951,709	6,802	236	
1912.....	2,643	3,296,229	5,213	22,536,015	7,856	25,832,244	4,090,362	35,579,293	39,669,655	6,200	236	



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## CAPITAL EXPENDITURE.

The statement following brings the capital expenditure on the canals of the Dominion down to March 31, 1912. It must be understood, however, that the total shown is apart from the outlay by the Imperial Government on the Carillon and Grenville canal, as to which the records were lost in the destruction by the fire of the Ordinance Office, Montreal, in 1852. The details are as follows :—

Canal.	Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Beauharnois.....	1,636,690 26		1,636,690 26
Carillon and Grenville.....	63,053 64	4,119,039 32	4,182,092 96
Chambly.....	637,214 66	79,255 76	716,470 42
Cornwall.....	1,945,624 73	5,297,179 48	7,242,804 21
Culbute.....	382,776 46		382,776 46
Lachine.....	2,589,532 85	10,352,146 14	12,941,678 99
Lake St. Francis.....		75,906 71	75,906 71
Lake St. Louis.....		298,176 11	298,176 11
Murray.....	1,248,946 71		1,248,946 71
Rideau.....	4,085,889 21		4,085,889 21
Sault-Ste-Marie.....	4,941,557 07		4,941,557 07
Soulanges.....	7,515,623 18		7,515,623 18
Ste. Anne's.....	134,456 51	1,035,759 12	1,170,215 63
St. Laurence River and Canals.....	18,442 85	3,451,470 56	3,469,913 41
St. Ours.....	121,537 65	4,306 28	125,843 93
St. Peter's.....	648,547 14		648,547 14
Tay.....	489,599 23		489,599 23
Trent.....	11,302,045 89		11,302,045 89
Welland.....	7,693,824 03	21,209,415 83	28,903,239 86
Williamsburg { Farran's Point		877,090 57	10,488,811 69
Galops.....		6,118,927 32	
Rapide Plat.....		2,158,242 00	
Williamsburg.....	1,320,655 54	13,896 26	
St. Andrews Lock .....	1,533,759 57		1,533,759 57
Total .....	48,309,777 18	55,090,811 46	103,400,588 64

The cost of maintenance for the fiscal year 1912, was \$1,725,737.46.

I have the honor to be, sir,

Your obedient servant,

J. L. PAYNE,  
Comptroller of Statistics.







# CANAL STATISTICS

FOR

## SEASON OF NAVIGATION, 1912

### GRAIN PASSED DOWN WELLAND.

The quantity of barley, corn, oats, pease, rye and wheat passed down the Welland canal, from ports west of Port Colborne for a period of thirty-one years is as follows:—

QUANTITY PASSED DOWN TO MONTREAL.		To Ports in Ontario.	Quantity from U. S. Ports to U. S. Ports.
	Tons.	Tons.	Tons.
1882.....	180,694	.....	63,881
1883.....	186,814	10,650	121,876
1884.....	142,194	12,153	104,537
1885.....	96,569	11,909	117,346
1886.....	203,940	9,881	151,557
1887.....	185,034	11,838	134,868
1888.....	160,358	25,599	169,664
1889.....	267,769	19,075	213,766
1890.....	288,513	16,899	245,932
1891.....	295,509	6,805	202,710
1892.....	261,954	8,942	201,540
1893.....	501,806	25,555	222,958
1894.....	273,651	16,699	203,979
1895.....	231,491	32,096	133,823
1896.....	461,049	73,386	160,372
1897.....	* 560,254	53,257	157,756
1898.....	519,532	31,279	144,612
1899.....	332,746	40,197	68,011
1900.....	244,661	17,525	84,589
1901.....	151,566	13,732	83,370
1902.....	208,215	22,787	81,164
1903.....	351,936	29,062	111,828
1904.....	198,246	23,711	102,523
1905.....	341,431	42,061	129,270
1906.....	404,935	33,351	176,119
1907.....	635,573	42,032	163,295
1908.....	756,141	38,142	135,172
1909.....	652,742	40,238	129,587
1910.....	789,661	63,657	115,457
1911.....	836,924	51,560	121,655
1912.....	961,855	47,866	117,195

During the last decade the quantity of agricultural products as above, passed down the Welland and St. Lawrence canals to Montreal, has increased from 351,936 tons in 1903 to 961,855 tons in 1912, and the quantity passed down the Welland canal from United States ports to United States, has increased from 111,828 to 117,195 tons the same years.



3 GEORGE V.. A. 1913

The quantity of barley, buckwheat, corn, oats, pease, rye and wheat, arrived at Montreal via Grand Trunk and Canadian Pacific Railways for a period of 15 years, is reported as follows :—

Year.	Tons.
1898	293,391
1899	209,170
1900	229,624
1901	227,700
1902	263,861
1903	253,959
1904	154,625
1905	148,377
1906	386,963
1907	383,735
1908	285,262
1909	426,163
1910	
1911	241,134
1912	462,444

The quantity of the same articles passed down the whole length of the St. Lawrence canals to Montreal for the same period was :—

Year.	Tons.
1898	575,097
1899	372,291
1900	295,928
1901	203,316
1902	242,225
1903	400,057
1904	220,076
1905	375,630
1906	449,673
1907	684,697
1908	776,374
1909	652,742
1910	789,661
1911	836,924
1912	964,187

Comparative shipments of grain by the St. Lawrence route, and railways, are as follows :—

QUANTITY OF GRAIN TO SEA BOARD BY COMPETING ROUTES.

The quantity of grain and pease passed down the whole length of the St. Lawrence canal to Montreal, is as follows :—

	Tons.
For 1911	836,924
1912	964,187
Showing an increase of	127,263

The quantity of grain and pease carried to Montreal via Canadian Pacific and Grand Trunk Railways is reported as follows :—

	Tons.
For 1911	241,134
1912	462,444
Showing an increase of	221,310



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The quantity of grain passed down the Welland canal in Canadian and United States vessels to Kingston and Prescott for fifteen years is as follows :—

In Canadian vessels there were in :

	Tons.
1898, 166 cargoes, with an aggregate quantity of.....	224,021
1899, 162 " " .....	221,306
1900, 325 " " .....	183,200
1901, 112 " " .....	132,558
1902, 131 " " .....	175,514
1903, 170 " " .....	218,840
1904, 115 " " .....	174,121
1905, 167 " " .....	239,418
1906, 205 " " .....	344,605
1907, 255 " " .....	427,813
1908, 355 " " .....	598,941
1909, 308 " " .....	550,276
1910, 383 " " .....	679,358
1911, 421 " " .....	728,223
1912, " " .....	796,858

In the United States vessels there were in :—

	Tons.
1898, 339 cargoes, with an aggregate quantity of.....	464,852
1899, 167 " " .....	205,571
1900, 259 " " .....	163,575
1901, 135 " " .....	123,229
1902, 135 " " .....	136,652
1903, 219 " " .....	273,986
1904, 118 " " .....	150,359
1905, 235 " " .....	273,344
1906, 178 " " .....	269,800
1907, 263 " " .....	413,087
1908, 271 " " .....	330,514
1909, 174 " " .....	272,291
1910, 182 " " .....	295,714
1911, 173 " " .....	281,916
1912, " " .....	330,058

One hundred and sixty-two Canadian and 49 American vessels took cargoes of 343,733 tons through to Montreal intact in 1908 ; 87 Canadian and 9 American of 135,582 in 1907 ; 74 Canadian and 10 American of 108,734 tons in 1906 ; 96 Canadian and 18 American of 180,206 in 1905 ; 56 Canadian and 16 American of 116,095 tons in 1904 ; 56 Canadian and 18 American of 99,582 tons in 1903 ; 19 Canadian and 17 American of 34,804 tons in 1902 ; 23 Canadian and 2 American of 17,303 tons in 1901, 15 of 7,924 tons in 1900, 2 of 558 tons in 1899, 7 of 2,426 in 1898, 7 of 2,324 in 1897, 3 of 1,176 in 1896, 4 of 1,344 tons in 1905, 2 cargoes of 810 tons in 1894, none in 1893, 2 in 1892 of 934 tons, and 3 in 1891 of 1,441 tons. Three vessels lightened a portion of their cargoes in 1901, 9 in 1900, 11 in 1899, 25 in 1898, 11 in 1897, 16 in 1896, 6 in 1895, 19 in 1894, 34 in 1893, 25 in 1892, and 44 in 1891 ; 222 vessels discharged the whole of their cargoes at Kingston in 1901, 540 in 1900, 316 in 1899, 473 in 1898, 359 in 1897, 335 in 1896, 169 in 1895, 188 in 1894, 369 in 1893, 220 in 1892, and 293 in 1891.



The quantity of grain transhipped at Port Colborne in 1909 and the four previous years was as follows :

Articles.	1905.	1906.	1907.	1908.	1909.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Wheat.....	679,840	1,009,474	1,428,300	1,106,244	2,686,963
Corn.....	104,027	110,629	112,036	.....	.....
Rye.....	.....	.....	.....	.....	.....
Oats.....	.....	29,118	30,824	23,945	.....
Barley.....	.....	2,103	.....	56,544	22,216
Flaxseed.....	.....	.....	39,040	49,628	8,202

WELLAND CANAL.

The total quantity of freight passed on the Welland canal during the season of 1912 was 2,851,915 tons ; of this quantity 65,228 tons was way or local freight.

There were 2,026,193 tons of freight passed eastward, and 825,722 passed westward.

*East and West bound Through Freight.*

The total quantity of through freight passed through the whole length of the Welland canal during the season of 1912 was 2,786,687 tons.

Of this quantity 2,008,863 tons were east bound and 777,824 west bound freight.

Of the east bound through freight, Canadian vessels carried 1,415,697 tons and United States vessels carried 593,116 tons ; and of the west bound through freight Canadian vessels carried 473,531 tons and United States vessels carried 304,293 tons, or a total of 1,889,228 tons for Canadian and 897,459 tons for American vessels.

ST. LAWRENCE CANALS.

The total quantity of freight passed through these canals during 1912 was 3,477,188 tons ; of this quantity 2,518,307 tons passed eastward and 958,881 passed westward.

*East and West bound Through Freight.*

The total quantity of through freight was 2,653,223 tons ; of this quantity 2,085,540 tons were east bound and 567,683 tons were west bound.

*Way Freight.*

Of the total quantity of (way) or local freight 432,767 were east bound and 391,198 tons west bound freight.



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## THROUGH TRAFFIC BETWEEN MONTREAL AND PORTS ON LAKE ERIE, MICHIGAN, ETC.

The total quantity of through freights passed eastward from Lake Erie and westward from Montreal through the Welland and St. Lawrence canals, during fifteen years, was as follows:—

Year.	Eastward to Montreal.	Westward, from Montreal.
	Tons.	Tons.
1898.....	538,108	4,436
1899.....	354,933	5,991
1900.....	288,251	6,217
1901.....	184,420	13,714
1902.....	250,475	25,289
1903.....	390,786	100,699
1904.....	278,328	71,512
1905.....	448,704	72,482
1906.....	554,231	96,791
1907.....	789,167	1,281
1908.....	864,926	3,472
1909.....	925,005	191,510
1910.....	1,170,139	172,360
1911.....	1,291,973	233,335
1912.....	1,559,963	236,979

## THROUGH FREIGHT FROM UNITED STATES PORTS TO UNITED STATES PORTS.

The total quantity of through freight passed eastward and westward through the Welland canal, from United States ports to United States ports, for a period of fifteen years, was as follows:—

Year.	Eastward.	Westward.	Total.
	Tons.	Tons.	Tons.
1898.....	277,023	210,516	487,539
1899.....	225,491	135,038	360,529
1900.....	218,969	99,560	318,529
1901.....	190,476	83,543	274,019
1902.....	224,110	44,919	269,029
1903.....	221,074	149,151	370,225
1904.....	165,337	87,144	252,481
1905.....	190,547	112,549	303,096
1906.....	237,226	84,205	321,431
1907.....	218,997	177,660	396,657
1908.....	209,518	239,136	448,654
1909.....	196,838	248,581	445,419
1910.....	197,301	288,198	485,499
1911.....	175,752	309,603	485,355
1912.....	180,319	235,437	415,756

The total quantity of freight passed through the Welland canal from United States ports to United States ports shows a decrease of 69,599 tons as compared with the previous year; and a decrease of 71,783 tons as compared with 1898.



The following statement shows the aggregate number of vessels and the total quantity of freight passed through the Welland canal, and the quantity passed between United States ports during the year 1867 to 1912, inclusive.

Fiscal Year.	Aggregate Number of Trips.	Total quantity transported on the Welland canal.	Quantity passed from United States ports to United States ports.
	Number.	Tons.	Tons.
1867.....	5,405	933,260	458,386
1868.....	6,157	1,161,821	641,711
1869.....	6,069	1,231,903	688,700
1870.....	7,356	1,311,956	747,567
1871.....	7,729	1,478,122	772,756
<i>Season of Navigation.</i>			
1872.....	6,063	1,333,104	606,627
1873.....	6,425	1,506,484	656,208
1874.....	5,814	1,389,173	748,557
1875.....	4,242	1,038,050	477,809
1876.....	4,789	1,099,810	488,815
1877.....	5,129	1,175,398	493,841
1878.....	4,429	968,758	373,738
1879.....	3,960	865,664	284,043
1880.....	4,104	819,934	179,605
1881.....	3,332	686,506	194,173
1882.....	3,334	790,643	282,806
1883.....	3,267	1,005,156	432,611
1884.....	3,138	837,811	407,079
1885.....	2,738	784,928	384,509
1886.....	3,589	980,135	464,478
1887.....	2,785	777,918	340,501
1888.....	2,647	878,800	434,753
1889.....	2,975	1,085,273	563,584
1890.....	2,882	1,016,165	533,957
1891.....	2,594	975,013	553,800
1892.....	2,615	955,554	541,065
1893.....	2,843	1,294,823	631,667
1894.....	2,412	1,008,221	592,267
1895.....	2,222	869,595	469,779
1896.....	2,766	1,279,987	653,213
1897.....	2,725	1,274,292	564,694
1898.....	2,384	1,140,077	487,539
1899.....	2,202	789,770	360,529
1900.....	2,399	719,360	318,529
1901.....	1,547	620,209	274,019
1902.....	1,568	665,387	269,029
1903.....	1,787	1,002,919	370,225
1904.....	1,433	811,371	252,481
1905.....	1,595	1,092,050	305,096
1906.....	1,536	1,201,967	321,431
1907.....	1,982	1,614,132	396,743
1908.....	2,351	1,703,453	448,654
1909.....	2,433	2,025,951	445,419
1910.....	2,544	2,326,290	487,499
1911.....	2,480	2,537,629	485,355
1912.....	2,905	2,851,915	415,756



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The total quantity of freight passed through the several divisions of the Canadian canal system during the season of 1912, is as follows :

—	Farm Stock.	Forest Produce of Wood.	Manu- factures.	Products of Mines.	Agricultural Products.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Sault Ste. Marie. ....	372	54,114	975,303	34,109,074	4,530,792	39,669,655
Welland. ....	678	227,684	625,569	797,072	1,205,912	2,851,915
St. Lawrence. ....	9,375	578,760	464,091	1,305,395	1,119,567	3,477,188
Chambly. ....	338	425,313	11,600	161,458	19,706	618,415
St. Peter's. ....	2,996	11,161	7,583	37,642	15,427	74,809
Murray. ....	37	706	101,511	67,379	448	170,081
Ottawa. ....	2,880	226,600	20,958	136,634	5,278	392,350
Rideau. ....	3,151	28,642	18,814	105,531	3,995	160,133
Trent. ....	361	67,489	3,459	3,327	2,514	77,150
St. Andrew's. ....		14,153	60	81,299	37	95,549

The total quantity of freight moved on the Welland canal was 2,851,915 tons, of which 1,205,912 tons were agricultural products.

On the St. Lawrence canals the total quantity of freight moved was 3,477,188 tons, of which 1,119,567 were agricultural products, and 464,091 tons were manufactures.

On the Ottawa canals the total quantity of freight moved was 392,350 tons : of this quantity 226,600 tons were the produce of the forest.



COMPARATIVE STATEMENT of the Commerce through the United States St. Mary's Falls canals and the Canadian Sault Ste. Marie canal ; for the Seasons of 1911 and 1912.

	TRAFFIC FOR 1912.		TOTAL TRAFFIC FOR.		INCREASE.	DECREASE.
	United States Canal.	Canadian Canal.	Season of 1912.	Season of 1911.	Amount.	Amount.
Vessels..... No.	14,916	7,856	22,772	18,672	4,100	
Lockages..... "	9,888	6,200	16,088	13,293	2,795	
Tonnage registered.... net tons.	30,947,133	25,832,244	56,779,377	41,682,739	15,096,638	
"    freight..... "	32,824,815	39,669,655	72,494,470	53,475,260	19,019,210	
Passengers.... No.	29,595	37,549	67,144	79,289		12,145
Coal hard..... net tons.	1,702,543	434,224	2,136,767	2,047,206	89,561	
"    soft..... "	10,289,852	2,511,217	12,801,069	13,228,474		427,405
Flour ..... brls.	6,263,721	2,388,710	8,652,431	7,272,433	1,379,998	
Wheat..... bush.	56,254,517	117,679,934	173,934,451	97,226,895	76,707,556	
Grain (excluding wheat). "	32,107,673	37,116,343	69,224,016	37,714,824	31,509,192	
Manufactured & pig iron.net tons.	413,658	284,589	698,247	399,821	298,426	
Salt..... brls.	558,123	90,503	648,626	621,031	27,595	
Copper..... net tons.	109,891	16,963	126,854	132,526		5,662
Iron ore..... "	15,169,217	31,141,063	46,310,280	30,737,300	11,572,980	
Lumber ft. B.M.....	645,025,000	31,982,500	677,007,500	465,930,425	211,077,075	
Silver ore..... net tons.						
Building stone..... "	2,282		2,282	2,100	182	
Unclassified freight..... "	928,762	700,762	1,629,524	1,631,120		1,596



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The United States canal was open to navigation during the season of—

1889.....	234 days.	1901.....	230 days.
1890.....	228 "	1902.....	256 "
1891.....	225 "	1903.....	249 "
1892.....	233 "	1904.....	223 "
1893.....	219 "	1905.....	245 "
1894.....	234 "	1906.....	249 "
1895 ..	231 "	1907.....	233 "
1896.....	232 "	1908.....	231 "
1897.....	234 "	1909.....	236 "
1898.....	241 "	1910.....	224 "
1899.....	231 "	1911.....	237 "
1900 ..	238 "	1912.....	237 "

The Canadian canal was open to navigation during the season of—

1895.....	87 days.	1904.....	241 days.
1896 ..	218 "	1905.....	255 "
1897.....	238 "	1906.....	253 "
1898.....	243 "	1907.....	238 "
1899.....	239 "	1908.....	235 "
1900 ..	238 "	1909..	240 "
1901.....	246 "	1910 ..	248 "
1902.....	264 "	1911.....	236 "
1903.....	256 "	1912...	240 "

The average number of vessels passing per day through the two canals for the season of 1912 was ninety-six.



A—TABLE showing the total tonnage of the undermentioned articles moved Up and Down

YEAR.	VEGETABLE FOOD.						
	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Articles. †
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869*.....	45,674	313,825	120,599	20,951	.....	904	1,937
1872.....	26,651	239,998	254,902	6,035	7,752	64	2,745
1873.....	30,665	355,847	180,169	8,225	1,194	3	3,777
1874.....	24,019	413,212	181,151	18,871	5,954	513	8,677
1875.....	13,964	253,835	103,749	35,751	3,383	917	6,337
1876.....	15,778	201,906	144,501	18,455	24,496	1,454	3,198
1877.....	13,558	253,953	169,196	19,870	2,810	2,439	2,355
1878.....	9,121	191,982	185,931	10,979	3,088	.....	2,302
1879.....	10,710	274,570	144,506	4,655	1,239	440	2,444
1880.....	12,679	242,020	163,738	17,772	477	1,016	1,480
1881.....	9,959	127,832	101,075	24,509	.....	1,844	2,086
1882.....	12,261	215,056	54,799	20,126	611	3,226	403
1883.....	13,471	152,794	182,269	10,436	731	1,642	10,983
1884.....	13,683	144,851	118,811	7,155	10,746	1,320	9,168
1885.....	13,334	124,206	117,536	15,801	1,116	.....	1,912
1886.....	19,474	154,169	219,442	1,595	4,911	564	14,657
1887.....	23,949	221,927	114,938	9,574	12,050	.....	12,533
1888.....	16,983	160,963	194,886	5,906	26,629	811	13,608
1889.....	7,931	126,664	353,595	4,272	28,356	2,673	18,552
1890.....	14,461	118,002	327,394	10,830	27,728	1,549	20,876
1891.....	13,517	198,658	185,180	8,113	52,959	65,888	28,042
1892.....	17,046	232,019	192,548	6,433	37,173	9,392	32,815
1893.....	15,235	258,392	441,092	18,599	31,283	3,671	36,981
1894.....	33,628	270,993	169,233	28,353	27,962	567	60,673
1895.....	44,044	203,088	164,894	8,689	18,236	1,007	46,463
1896.....	42,425	320,563	320,444	11,368	28,178	9,405	56,591
1897.....	9,065	324,743	390,615	14,173	25,161	8,483	44,674
1898.....	5,578	207,647	437,861	12,286	17,502	16,127	23,182
1899.....	11,625	197,732	204,004	2,907	24,037	923	18,460
1900.....	10,968	137,800	163,509	4,035	41,055	3,538	14,815
1901.....	18,978	151,586	67,756	7,119	28,485	2,961	14,024
1902.....	22,282	225,171	67,647	7,418	11,232	4,079	12,963
1903.....	25,998	259,031	210,758	14,656	7,911	4,904	13,994
1904.....	35,049	165,138	116,444	27,171	16,582	.....	13,184
1905.....	38,512	254,458	180,921	55,432	36,072	1,711	9,883
1906.....	18,294	326,798	211,805	31,446	49,306	1,784	10,739
1907.....	22,739	488,565	271,693	13,240	73,369	2,270	22,683
1908.....	23,209	732,131	127,402	31,172	33,423	6,667	21,668
1909.....	38,763	590,196	140,902	23,151	75,135	33	30,221
1910.....	11,152	587,493	229,980	21,575	136,233	.....	18,149
1911.....	57,061	562,282	273,932	15,029	163,333	112	11,360
1912.....	45,807	795,989	121,333	25,241	185,546	714	14,626

\* Fiscal. † Apples, meals of all kinds, pease, potatoes.



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through the Welland canal, during a period of forty-two years, ended December 31, 1912

Total.	HEAVY GOODS.						Total.
	Railway Iron.	Other Iron.	Sugar and Salt.	Iron and Salt having paid full tolls on St. Lawrence canals.	Coal.	Ores.	
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
503,860	46,806	16,924	91,575	37,153	103,126	58,781	275,623
538,147	26,217	17,141	50,540	41,243	186,932	98,605	3,678
579,880	6,923	20,754	40,850	17,157	339,016	118,685	43,387
647,397	6,032	12,068	23,309	9,579	323,503	56,825	431,316
417,936	1,517	7,588	13,509	9,962	321,306	43,683	397,565
409,788	51	7,997	30,300	20,327	288,211	81,654	378,540
464,181	9,630	9,696	9,173	3,983	323,869	42,758	399,109
403,403	10	11,518	3,980	12,686	295,318	15,229	338,741
438,564	2,782	5,797	7,174	17,796	192,957	19,164	245,670
442,182	5,360	4,812	413	22,273	109,986	34,139	176,983
269,395	4,585	7,013	10	30,682	128,113	18,785	189,188
306,482	.....	5,348	50	17,327	237,559	23,700	283,984
373,326	1,237	7,922	66	17,037	307,058	31,785	365,105
305,734	698	652	461	3,242	274,471	53,205	332,729
273,905	78	2,055	597	14,243	248,272	26,728	291,973
414,812	166	6,123	48	12,324	271,356	27,447	317,464
394,971	1,351	5,636	.....	6,715	145,193	13,866	172,761
419,786	93	3,220	316	13,617	223,871	16,872	257,989
542,043	47	2,479	1,254	20,269	268,305	2,435	294,789
519,291	.....	753	1,027	28,047	202,384	8,138	240,349
367,177	127	1,610	2,567	7,953	224,644	3,415	240,316
527,426	163	1,567	878	3,666	211,616	355	218,245
805,253	6	2,075	374	8,139	233,096	.....	243,690
591,409	.....	3,072	159	977	203,608	.....	207,816
486,421	185	6,245	54	2,819	158,866	1,140	169,309
788,974	1,192	6,332	82	3,264	223,445	1,158	235,473
816,914	7,206	17,012	227	590	176,226	.....	201,261
720,183	1,444	11,722	799	734	162,336	13,433	190,468
459,688	567	6,361	1,282	1,318	97,732	26,125	133,385
375,720	.....	8,190	533	4,800	47,392	58,400	119,315
290,909	83	6,094	327	8,773	49,480	99,487	164,244
350,792	64	7,488	.....	15,201	64,014	22,480	109,247
537,252	488	5,407	2,554	45,846	147,884	18,323	220,502
373,568	11,381	9,957	1,093	4,164	113,525	39,683	179,803
576,989	2,651	10,912	226	4,221	172,642	22,381	213,038
650,172	3,747	8,493	100	16,204	147,587	5,862	181,993
894,559	961	4,923	246	18,761	267,212	25,040	317,143
975,672	.....	35,726	429	.....	316,921	18,004	371,080
898,401	.....	87,025	.....	.....	377,681	33,301	498,007
1,034,582	.....	57,581	.....	.....	577,491	34,311	669,383
1,083,109	.....	126,956	35,888	.....	619,682	37,480	820,006
1,189,256	.....	139,991	21,630	.....	709,696	82,376	953,693



B.—TABLE showing the Total Way and Through Tonnage of the undermentioned Articles cleared downward on the Welland canal during a series of forty-two years, ended December 31, 1912.

VEGETABLE FOOD.

Years.	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Articles. †	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869. . . . .	44,110	310,090	119,541	3,920	.....	680	1,541	479,882
1872. . . . .	26,648	231,056	254,534	693	7,594	64	2,300	524,889
1873. . . . .	30,660	345,720	180,042	643	1,188	3	3,557	563,813
1874. . . . .	24,017	406,157	181,128	377	5,953	.....	3,301	620,933
1875. . . . .	13,930	248,555	103,477	813	3,383	500	4,304	374,962
1876. . . . .	15,735	194,559	144,501	1,110	24,496	1,454	2,949	384,807
1877. . . . .	13,588	248,894	169,185	10,216	2,810	2,405	1,833	448,931
1878. . . . .	8,854	188,106	185,931	1,217	3,088	.....	2,100	389,296
1879. . . . .	10,588	271,545	114,276	803	1,196	.....	2,387	430,795
1880. . . . .	12,467	240,601	162,891	.....	477	.....	1,418	417,853
1881. . . . .	9,655	121,393	103,075	252	.....	6	1,371	235,752
1882. . . . .	12,205	205,876	54,797	537	.....	1,954	225	275,594
1883. . . . .	13,256	146,741	182,143	975	731	518	10,971	355,335
1884. . . . .	13,626	135,804	118,811	270	10,746	477	9,018	288,752
1885. . . . .	13,322	114,090	117,536	618	1,116	.....	1,628	248,310
1886. . . . .	19,418	146,151	218,897	.....	4,891	.....	14,581	403,928
1887. . . . .	23,940	210,755	114,938	1,711	12,050	.....	12,149	375,543
1888. . . . .	16,973	150,833	194,886	555	26,629	811	13,358	404,045
1889. . . . .	7,922	120,498	353,595	197	28,356	1,918	18,273	530,759
1890. . . . .	14,461	114,924	327,394	6,519	27,728	1,121	20,836	512,983
1891. . . . .	13,517	196,326	185,177	8,113	52,959	65,071	27,895	549,058
1892. . . . .	17,046	229,569	192,548	6,433	37,173	9,392	32,548	524,709
1893. . . . .	15,232	257,203	441,092	18,461	31,283	3,671	36,981	803,923
1894. . . . .	33,628	270,514	169,233	28,353	27,962	.....	60,587	590,277
1895. . . . .	43,895	202,636	164,894	8,689	18,236	.....	46,435	484,785
1896. . . . .	42,159	319,388	320,444	11,368	28,178	8,970	54,031	784,538
1897. . . . .	9,025	322,993	390,615	14,173	25,127	8,483	44,651	815,067
1898. . . . .	5,578	206,313	437,849	12,286	17,491	16,127	23,170	718,814
1899. . . . .	11,625	197,732	204,004	2,424	23,541	923	18,440	458,689
1900. . . . .	10,968	137,800	163,509	3,449	40,256	3,538	14,802	374,322
1901. . . . .	18,937	151,325	67,756	7,119	28,281	2,961	14,021	290,400
1902. . . . .	22,282	223,499	67,647	7,418	11,223	4,079	12,912	349,060
1903. . . . .	25,997	257,370	210,758	14,656	7,911	4,904	13,982	535,578
1904. . . . .	35,046	164,515	116,444	27,171	16,582	.....	13,157	372,915
1905. . . . .	38,512	247,599	180,921	55,432	36,072	1,711	9,882	570,129
1906. . . . .	18,227	326,789	111,243	31,446	49,306	1,411	10,739	549,161
1907. . . . .	22,689	488,565	271,693	13,240	73,369	2,270	22,683	894,509
1908. . . . .	23,187	730,751	127,402	31,172	33,423	6,667	21,668	974,270
1909. . . . .	38,763	590,074	140,902	23,151	75,135	33	30,206	898,264
1910. . . . .	41,152	587,493	229,980	21,575	136,233	.....	18,149	1,034,582
1911. . . . .	57,061	562,282	273,932	14,622	163,333	112	11,360	1,082,702
1912. . . . .	45,807	795,989	121,333	25,241	185,546	714	14,626	1,189,256

\* Fiscal.    † Apples, meal all kinds, potatoes.



C.—TABLE showing the Tonnage of the undermentioned Articles passed through the Welland canal in transit between Ports in the United States during a series of forty-two years, ended December 31, 1912.

20a—31

YEARS.	VEGETABLE FOOD.							HEAVY GOODS.						
	Flour.	Wheat	Corn.	Barley.	Oats.	Rye.	*Other Articles.	Total.	Railway Iron.	Other Iron.	Sugar and Salt.	Coal.	Ores.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869	30,681	211,085	91,149	2,942	...	667	1,006	337,530	68,064	14,334	89,086	28,566	35,912	235,962
1872	10,482	124,695	89,761	1,391	7,400	...	608	234,337	24,040	13,239	49,843	95,741	59,401	224,264
1873	10,805	127,727	101,329	1,920	1,188	3	392	243,366	4,659	13,826	40,507	170,242	62,942	292,176
1874	8,230	229,053	125,627	...	5,948	...	5,368	374,226	5,742	8,941	22,888	203,673	19,651	260,895
1875	1,881	113,832	54,188	2,641	2,946	500	1,920	177,908	14	4,123	12,931	192,767	34,616	244,451
1876	5,187	96,247	58,138	...	1,905	525	403	162,405	...	5,531	29,395	167,110	25,808	227,844
1877	3,342	107,396	65,260	1,603	2,314	258	413	180,586	8,976	8,688	8,336	172,868	41,107	239,975
1878	1,316	65,542	60,026	859	277	...	341	128,361	...	10,713	3,892	150,583	13,535	178,723
1879	159	53,791	33,401	...	464	...	11	87,826	...	3,648	6,318	118,573	17,797	148,741
1880	...	30,611	16,122	1,551	296	...	...	48,580	2,405	3,515	371	65,945	18,380	92,954
1881	...	34,320	30,031	924	...	...	10	65,285	1,313	5,570	...	83,858	6,464	97,205
1882	107	30,227	32,433	537	...	681	14	64,002	...	4,076	...	158,552	14,533	177,161
1883	2,041	54,382	66,128	735	731	...	8,579	132,496	1,209	6,901	8	196,462	24,891	229,471
1884	1,715	40,956	53,707	...	9,874	...	8,170	114,422	698	599	...	210,790	15,100	227,187
1885	124	53,235	63,229	732	882	...	1	118,203	...	1,594	...	198,416	15,029	215,039
1886	7,591	53,258	94,048	...	4,790	...	13,201	172,888	156	5,328	1	189,964	11,364	206,813
1887	11,780	37,678	83,431	1,732	12,050	...	10,859	157,530	15	4,406	...	82,780	627	87,828
1888	8,563	39,999	102,974	...	26,510	...	11,598	189,825	63	1,601	56	173,259	2,309	177,288
1889	5,017	39,229	147,045	...	27,492	...	17,225	236,208	...	1,587	896	227,476	1,204	231,163
1890	9,204	31,527	180,842	6,519	27,030	...	20,497	275,619	...	504	208	162,231	1,620	154,563
1891	6,802	32,097	127,494	8,113	52,823	...	26,115	253,444	...	292	705	186,572	1,773	189,342
1892	11,018	26,950	131,222	6,433	36,935	...	31,992	244,550	...	576	2	183,895	...	184,473
1893	6,588	28,187	198,777	16,751	23,870	861	36,352	311,389	...	344	...	206,827	...	207,171
1894	17,795	53,846	105,329	28,095	27,621	...	60,462	198,358	...	297	...	188,521	...	188,818
1895	10,169	27,881	100,512	7,904	17,020	...	46,316	209,802	181	246	...	149,490	...	149,917
1896	16,224	34,878	175,094	11,128	16,137	...	46,456	300,407	...	146	...	207,348	...	207,494
1897	7,237	28,919	169,057	14,173	14,969	490	41,887	276,242	...	15	...	165,143	...	166,123
1898	4,212	11,268	150,667	6,909	12,732	1,197	22,671	209,656	965	339	4	156,814	...	157,927
1899	6,118	12,926	81,777	2,424	19,526	923	18,198	141,892	770	1,646	553	88,931	...	91,481
1900	7,966	18,771	60,545	2,402	39,706	2,149	14,243	145,787	351	953	...	46,024	...	46,977
1901	17,165	23,557	55,531	7,119	26,344	...	14,016	143,732	...	80	105	46,702	...	46,970
1902	13,785	32,639	66,111	7,418	10,006	...	12,675	142,634	...	214	...	12,911	...	13,125

\* Apples, meal of all kinds, peas, potatoes.



C.—TABLE showing the Tonnage of the undermentioned Articles passed through the Welland canal in transit between Ports in the United States during a series of forty-two years, ended December 31, 1912—*Concluded.*

YEARS.	VEGETABLE FOOD.							HEAVY GOODS.						
	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	*Other Articles.	Total.	Railway Iron.	Other Iron.	Sugar and Salt.	Coal.	Ores.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1903.....	6,082	15,439	108,917	11,433	6,112	4,174	13,568	165,725	459	.....	.....	113,072	.....	113,536
1904.....	8,556	14,269	60,964	16,621	16,497	.....	13,079	129,986	.....	.....	.....	63,882	.....	63,882
1905.....	24,054	15,483	93,622	9,197	10,892	.....	9,682	162,930	.....	1	.....	73,464	.....	73,465
1906.....	15,215	13,410	135,240	9,266	11,323	.....	10,678	195,132	.....	169	.....	33,523	.....	33,692
1907.....	18,898	21,892	124,474	2,812	4,741	2	22,001	194,820	.....	30	.....	110,347	4,050	114,420
1908.....	17,694	24,651	99,830	7,148	2,070	2	21,393	172,788	.....	.....	.....	158,351	1,400	159,751
1909.....	15,452	17,940	100,967	4,224	.....	.....	22,683	161,266	.....	5	.....	131,131	1,531	132,666
1910.....	11,859	10,717	126,938	3,840	.....	.....	8,571	161,925	.....	.....	.....	201,893	.....	201,893
1911.....	2,852	4,950	116,705	.....	.....	.....	7,565	132,072	.....	1,863	.....	223,942	4,483	256,499
1912.....	9,878	15,911	91,254	2,160	1,400	.....	12,714	133,317	.....	300	26,303	166,419	4,979	182,777

\* Apples, meal all kinds, pease, potatoes.



## SESSIONAL PAPER No. 20a

D.—STATEMENT showing the Quantity of Through freight passed Down the Welland canal in Canadian and United States Vessels entering the canal at Port Colborne, during the season of Navigation in 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911 and 1912. •

ARTICLES.	CANADIAN VESSELS.				UNITED STATES VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam and Sail.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	197	103,802	114	59,022	163	182,497	48	22,319	522	367,640
1901.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat.....	57,641		58,973		31,955		1,241		149,810	
Corn.....	7,350		4,689		55,717				67,756	
Barley.....					7,119				7,119	
Oats.....	944				27,197				28,141	
Pease.....										
Rye.....	2,961								2,961	
Coal.....	1,960		362		357				2,679	
Miscellaneous merchandise...	71,300		32,312		12,874		7,469		123,955	
Shingles, woodenware, &c....	18								18	
Sawed lumber..... Ft. B.M.	6,533,423		4,060,251		11,089,806		13,092,940		34,776,420	
Square timber..... Cub. ft.	362,441		204,682		9,384		149,531		726,038	
Firewood..... Cords.	165		264						429	
Staves..... No.										
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	196	90,791	122	73,958	191	201,339	52	22,097	561	388,185
1902.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat.....	82,954		85,973		52,889				221,816	
Corn.....	148		1,388		66,111				67,647	
Barley.....					7,418				7,418	
Oats.....	1,200		43		9,963				11,206	
Pease.....										
Rye.....	3,808				271				4,079	
Coal.....	3,977		25,732		13,497		8,332		51,538	
Miscellaneous merchandise...	33,111		8,723		38,351		1,594		81,779	
Shingles, woodenware, &c....	47		28		4				79	
Sawed lumber..... Ft. B.M.	13,218,960		3,256,187		25,437,287		19,540,426		61,452,860	
Square timber..... Cub. ft.	370,718		557,689				115,000		1,043,407	
Firewood..... Cords	56		40						96	
Staves..... No.			14,000						14,000	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	329	151,850	76	45,918	243	252,094	69	27,854	627	477,716
1903.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat.....	149,378		38,473		60,514		6,305		254,670	
Corn.....	21,356		4,682		174,588		10,132		210,758	
Barley.....	2,580		667		11,409				14,656	
Oats.....	306		1,335		6,112				7,753	
Pease.....	63				22				85	
Rye.....					4,904				4,904	
Coal.....	389		12,991		8,133		8,496		30,009	
Miscellaneous merchandise...	39,563		3,367		41,584		2,000		86,514	
Shingles, woodenware, &c....			54						54	
Sawed lumber..... Ft. B.M.	12,841,552		1,625,855		17,871,652		14,733,677		47,072,736	
Square timber..... Cub. ft.	572,000		660,000				84,200		1,316,200	
Firewood..... Cords			210		9				219	
Staves..... No.			641,000						641,000	



3 GEORGE V., A. 1913

D.—STATEMENT showing the Quantity of Through Freight passed Down the Welland canal in Canadian and united States Vessels, &c.—Continued.

ARTICLES.	CANADIAN VESSELS.				AMERICAN VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam and Sail.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	329	151,850	76	45,918	243	252,094	69	27,854	627	477,716
1904.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat.....	116,794		33,302		14,269				164,365	
Corn.....	12,768		7,814		95,362				116,444	
Barley.....	2,619		824		23,728				27,171	
Oats.....					16,261				16,261	
Pease.....					3				3	
Rye.....										
Coal.....	1,925		7,187		17,133		7,668		33,913	
Iron ore.....	34,907				1,925				36,832	
Miscellaneous merchandise..	29,567				60,548				90,115	
Shingles, woodenware, &c....										
Sawed lumber.....Ft. B.M.	15,077,382		854,811		32,754,541		9,572,655		58,259,389	
Square timber.....Cub. ft.	944,508		744,000				149,000		1,837,508	
Firewood.....s.....Cords.					717				717	
Staves.....	634,000								634,000	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	252	182,373	91	48,692	319	286,656	64	29,120	726	546,841
1905.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat.....	188,706		18,575		28,757		2,512		238,550	
Corn.....	6,385		6,636		163,374		4,526		180,921	
Barley.....	6,870		1,451		47,111				55,432	
Oats.....	8,225		2,570		21,535		3,742		36,072	
Pease.....					76				76	
Rye.....					1,711				1,711	
Coal.....	18,756		35,324		28,330		8,678		91,088	
Iron ore.....	14,358		8,023						22,381	
Merchandise.....	29,375		7,485		74,975		3,126		114,961	
Shingles, woodenware, &c....			2,748,941		2,325				2,325	
Sawed lumber.....Ft. B.M.	2,867,147				38,290,831		12,479,698		54,589,200	
Square timber.....Cub. ft.	355,000		951,524						538,000	
Firewood.....Cords.			183,000		900				900	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	328	238,690	121	66,355	305	310,622	43	15,758	797	631,425
1906.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat ...	250,493		34,355		35,578				320,436	
Corn.....	8,177				202,250		1,378		49,306	
Barley.....	8,546		5,046		17,854				31,446	
Oats.....	21,900		16,083		11,323				49,306	
Pease.....					11				11	
Rye.....			5		1,406				1,411	
Coal.....	30,455		47,242		24,190		9,356		111,243	
Iron ore.....	5,862								5,862	
Merchandise.....	35,383		7,009		110,263		50		152,705	
Shingles, woodenware, &c....	16		37		851				904	
Sawed lumber.....Ft. B.M.	3,471,514		235,624		25,711,196		10,769,755		40,188,089	
Square timber.....Cub. ft.	375,000		200,000						575,000	
Firewood.....Cords.	110		18		1,093				1,221	
Staves.....No.					300,000				300,000	



SESSIONAL PAPER No. 20a

D.—STATEMENT showing the Quantity of Through Freight passed down the Welland canal in Canadian and United States Vessels, &c.—Continued.

ARTICLES.	CANADIAN VESSELS.				AMERICAN VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam and Sail.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	375	290,509	148	81,070	408	397,616	76	36,921	1,007	806,116
1907.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat. ....	294,298		50,808		130,818		4,429		480,303	
Corn.....	6,713		514		259,895		4,571		271,693	
Barley.....	8,726		468		4,046		.....		13,240	
Oats.....	49,689		16,647		7,033		.....		73,369	
Pease.....	.....		.....		25		.....		25	
Rye.....	.....		.....		2,270		.....		2,270	
Coal.....	31,506		57,373		50,183		14,493		143,555	
Iron ore.....	12,040		8,950		.....		.....		20,990	
Merchandise.....	21,545		9,436		5,231		6,235		42,447	
Shingles, woodenware, &c. ....	.....		.....		2,222		.....		2,222	
Sawed lumber.....Ft. B.M.	.....		.....		14,395,124		11,201,446		25,596,570	
Square timber.....Cub. ft.	558,090		323,000		.....		.....		881,090	
Firewood .....Cords.	.....		.....		660		.....		660	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	567	432,623	149	64,034	428	319,030	36	19,866	1180	835,553
1908.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat.. ....	505,151		39,001		183,101		3,498		730,751	
Corn.....	2,405		.....		124,997		.....		127,402	
Barley .. ...	19,775		1,133		10,264		.....		31,172	
Oats.....	30,091		643		2,689		.....		33,423	
Pease.....	.....		.....		40		.....		40	
Rye.....	742		.....		5,925		.....		6,667	
Coal.....	39,733		42,656		57,448		8,344		148,181	
Merchandise.....	26,815		14,783		14,410		13,686		69,694	
Firewood.....Cords.	.....		70		1,173		.....		1,243	
Sawed lumber.....Ft. B.M.	.....		.....		17,572,070		6,578,545		24,150,615	
Square timber.....Cub. ft.	221,300		313,000		.....		.....		534,300	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	555	486,406	136	71,034	323	324,576	26	17,317	1040	899,333
1909.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat .. ...	415,208		34,903		133,172		.....		583,283	
Corn.....	6,694		.....		134,208		.....		140,902	
Barley.....	17,943		360		4,848		.....		23,151	
Oats.....	70,392		4,743		.....		.....		75,135	
Bease.....	.....		.....		63		.....		63	
Rye .. ...	33		.....		.....		.....		33	
Coal.....	160,475		53,681		21,097		630		235,883	
Merchandise.. ....	52,994		14,782		12,232		16,498		96,506	
Sawed lumber.....	.....		.....		31,643		10,214		41,857	
Square timber.....	3,450		7,840		125		1,475		12,890	



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D.—STATEMENT showing the Quantity of Through Freight passed Down the Welland canal in Canadian and United States Vessels, &c—*Concluded.*

ARTICLES.	CANADIAN VESSELS.				UNITED STATES VESSELS.				TOTAL.
	Steam.		Sail.		Steam.		Sail.		Steam and Sail.
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No. Tonnage.
	596	599,416	142	88,963	249	285,704	14	13,563	1,001 987,646
1910.	Tons.		Tons.		Tons.		Tons.		Tons.
Wheat .....	481,624		22,200		77,040		.....		580,864
Corn .....	15,759		.....		214,221		.....		229,980
Barley .....	17,159		576		3,840		.....		21,575
Oats .....	135,743		.....		490		.....		136,233
Pease .....	.....		.....		123		.....		123
Rye .....	.....		.....		.....		.....		.....
Coal .....	216,779		114,671		29,646		894		361,990
Merchandise .....	39,149		15,231		21,818		20,466		96,664
Sawed lumber .....	3,630		800		16,932		.....		21,362
Square timber .....	1,930		5,000		800		.....		7,730
Shingles .....	.....		.....		525		.....		525
Unenumerated .....	74,434		1,772		24,031		.....		100,237
Total .....	986,207		160,250		389,466		21,360		1,557,283
1911.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No. Tonnage.
	640	670,037	122	83,755	270	304,171	48	42,830	1080 1,100,793
	Tons.		Tons.		Tons.		Tons.		Tons.
	483,984		24,826		49,330		.....		558,140
Wheat .....	29,978		11,368		232,586		.....		273,932
Corn .....	14,382		240		.....		.....		14,622
Barley .....	162,455		878		.....		.....		163,333
Oats .....	.....		.....		.....		.....		.....
Pease .....	112		.....		.....		.....		112
Rye .....	230,809		79,311		40,109		22,489		372,718
Coal .....	45,838		19,325		45,881		34,449		145,493
Merchandise .....	300		.....		25,361		9,020		34,681
Sawed lumber .....	3,260		4,500		2,277		.....		10,037
Square timber .....	.....		.....		60		.....		60
Shingles .....	95,017		.....		14,386		.....		109,403
Unenumerated .....	1,066,135		140,448		409,990		65,953		1,682,513
Total .....	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No. Ton nage
1912.	774	790,044	152	95,202	450	427,226	52	33,102	1428 1,345,574
	Tons.		Tons.		Tons.		Tons.		Tons.
	603,854		78,794		111,284		.....		793,932
	536		2,181		118,616		.....		121,333
Wheat .....	22,022		353		2,866		.....		25,241
Corn .....	170,446		3,269		11,831		.....		185,546
Barley .....	.....		.....		150		.....		150
Oats .....	.....		.....		714		.....		714
Pease .....	331,536		44,212		154,653		3,800		534,201
Rye .....	48,659		17,602		47,836		32,340		146,437
Coal .....	.....		.....		22,689		15,361		38,050
Merchandise .....	9,000		8,660		1,409		.....		19,069
Sawed lumber .....	.....		.....		250		.....		250
Square timber .....	73,387		1,186		69,367		.....		143,940
Shingles .....	1,259,440		156,257		541,665		51,501		2,008,863
Unenumerated .....	Total .....		Total .....		Total .....		Total .....		Total .....



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## WELLAND CANAL THROUGH FREIGHT—RECAPITULATION.

## WELLAND CANAL—WEST BOUND FREIGHT.

THE total quantity of Through Freight passed Up the Welland canal in Canadian and United States Vessels during the Season of Navigation in 1912, is as follows :—

Summary.	Tons.	Tons.
In Canadian steam vessels.....	473,531	
" sail vessels .....		
Total quantity in Canadian vessels ..		473,531
In United States steam vessels.....	302,043	
" sail vessels.....	2,250	
Total in United States vessels.....		304,293
Grand total freight passed Up the Welland canal in Canadian and United States vessels.....		777,824

STATEMENT of the Quantity of Through Freight passed Up and Down the Welland canal during the Season of Navigation in 1912.

Summary.	Tons.	Tons.
In Canadian steam vessels up.....	473,531	
" " down.....	1,259,440	
Total in Canadian steam vessels.....		1,732,971
In Canadian sail vessels up.....		
" " down.....	156,257	
Total in Canadian sail vessels.....		156,257
Total quantity in Canadian vessels.....		1,889,228
In United States steam vessels up..	302,043	
" " down.....	541,665	
Total in United States steam vessels .....		843,708
In United States sail vessels up .....	2,250	
" " down.....	51,501	
Total in United States sail vessels.....		53,751
Total quantity in United States vessels.....		897,459
Total in Canadian and United States vessels.....		2,786,687
	Down or East Bound.	Up or West Bound.
In Canadian vessels.....	1,415,697	473,531
In United States vessels.....	593,166	304,293
Total .....	2,008,863	777,824



F.—STATEMENT showing the Quantity of Freight passed Eastward, from Lake Erie, through the whole length of the Welland and St. Lawrence canals, to Montreal, during the Seasons of Navigation 1900 to 1912.

Articles.	1900.	1901.	1902.	1903.	1904.	1905.	1806.	1907.	1908.	1909.	1910.	1911.	1912.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
<i>Class A.</i>													
Cement and water lime.					35					5,652	484		
Clay, lime and sand.	15					22							
Iron, railway.			50		8,170	10							
" pig.	508											1,901	
" all other.	4,292	1,178	5,785	2,542	1,651	384	269	124	553	12,689	7,154	34,540	28,996
Steel.	5,420				16	48							
Stone, for cutting.													
Apples.					1			9,936					
Barley.	1,288			2,206	9,697	43,607	21,196	105,984	24,318	19,143	20,000	14,853	20,572
Corn.	109,359	14,319	1,719	123,864	55,021	84,204	55,559		10,454	17,137	77,612	134,239	7,345
Flaxseed.		4,065		3,643	212	15,694	80,570	49,159	27,500	19,634	6,607	11,696	15,413
Flour.	1,595	1,400	6,755	16,151	24,662	14,571	9,174	3,730	5,028	21,905	27,081	44,588	38,026
Meal, all kinds.		35		348	57	270	60		156		10,323	3,967	
Oats.	8,925	1,584	1,412	2,438		21,404	37,164	66,941	28,081	65,624	129,900	147,180	164,581
Oil cake.		1,083		462	7,846	9,229							
Pease.	115			63									
Rye.	3,078	2,561	4,079	4,260		1,711	1,405	2,266	6,662	30		20	10
Salt.		50		132	615	168	75	143	419	120			714
Seed, all kinds.								20					931
Hay, pressed.		246											
Tobacco, raw.		23											
Wheat.	121,896	132,702	200,975	226,746	133,528	190,505	289,611	450,446	686,626	550,775	562,149	541,174	768,633
All other agricultural products, vegetables.													
Hides, skins, horns and hoofs.					10		2			5,876			
Horses.													
Lard and lard oil.		1,155				2,847	4,810						
Meats, all kinds.		114											41
Pork.		34							524				
Tallow.				3		53							
All other agricultural products, animal.					1					366			
Total, class A.	256,491	161,849	220,805	382,858	241,522	384,727	499,895	688,749	790,321	718,951	841,310	934,158	1,045,262







G.—STATEMENT showing the Quantity of Freight passed Westward from Montreal, through the whole length of the St. Lawrence and Welland canals to Lake Erie, during the Seasons of Navigation in 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1909, 1910, 1911 and 1912.

Articles.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1909.	1910.	1911.	1912.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Class B.												
Bricks.....	49	196	22	80	115	132		556				
Brimstone.....		5	20	23	12							
Cement and water lime.....	1,931	2,916	178	3,924	39	181	88	13	400	17,565	8,625	40,071
Clay, lime and sand.....	4	2	1	181				100				
Cotton, raw.....				23								
Fish.....	8	8		8	4			39				
Gypsum.....												
Iron, railway.....	74	748	11,735	39,641	283	126	7,289	4,119				
" pig.....	3		558	273		312	680	7,655	7,231	2,060	2,300	2,598
" all other.....	1,428	4,950	2,901	5,845	3,782	3,633	8,235	6,987		540		
Salt.....	48	75	4	87	99	150	17					
Steel.....		3	11	332	58	192	111	2,561	35,153		22,352	66,544
Stone for cutting.....					41							
Flour.....		16				18						
Hay.....								30	255			
Meals.....				17	25					1,113		
Oats.....												
Potatoes.....												
Seeds, all kinds.....	218	302	58	325	164	35	17					
Tobacco, raw.....			1	2								
Agricultural products, not enumerated, vegetable.....		1	1			127						
Hides and skins.....			16	6								
Horses.....												
Lard and lard oil.....			11			28	20	1				
Meats, other than pork.....				1	25			15				
Pork.....	1											
Wool.....											150	150
All other articles not enumerated.....												
Total, class B.....	3,764	9,222	15,520	50,768	4,617	4,934	16,457	22,076	43,039	21,278	34,427	109,366



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Class 4.											
Agricultural implements.....											
Ashes, pot and pearl.....											
Crockery and earthenware.....	5										
Dye woods, &c.....											
Furniture.....	1										
Glass, all kinds.....	456	612									
Manilla.....											
Marble.....											
Molasses.....		1									
Nails.....	80	675									
Oil, in barrels.....	74	83									
Paint.....	12	69									
Pitch and tar.....	21	27									
Rags.....											
Resin.....											
Soda ash.....	63	169									
Stone, wrought.....											
Sugar.....	430	810									
Tin.....	117	338									
Turpentine.....		1									
White lead.....	4	11									
Whiting.....	39	49									
Whisky, beer, &c.....	295	131									
Merchandise not enumerated.....	744	1,516									
Total, class 4.....	2,447	4,492									
Class 5.											
Barrels, empty.....											
Firewood in vessels.....											
Pulpwood.....											
Lumber, sawn, in vessels.....											
Railway ties in vessels.....											
Woodenware.....	1										
Total, class 5.....											
Special Class.											
Coal.....											
Iron ore.....											
Total, special class.....											
Grand total.....	6,211	13,714	25,289	100,699	71,512	72,482	96,791	159,451	191,510	172,360	236,979



II.—STATEMENT showing the Quantity of Freight passed Eastward and Westward through the Welland canal, from United States Ports to United States Ports, during the Seasons of Navigation from 1900 to 1912, inclusive.

Articles.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Class 3.													
Bricks.....													
Cement and water lime.....	18										2,000		
Fish.....								20				91	
Iron, railway.....	714		30			1	27	30				1,863	300
" all other.....		105											
Salt.....								509	9,086				
Steel.....	3,110						2						
Stone for cutting.....													
Apples.....													
Barley.....	2,402	7,119	7,418	11,433	16,621	9,197	9,266	2,812	7,148	4,224	3,840		2,160
Corn.....	60,545	55,531	66,111	108,917	60,964	93,622	135,240	124,474	99,830	100,967	126,938	116,705	91,254
Flour.....	7,966	17,168	13,785	6,082	8,556	24,054	15,215	18,898	17,694		11,859	2,852	9,878
Hay, pressed.....						200							
Meal, all kinds.....	14,244	14,016	12,675	13,546	13,076	9,606	10,668	21,976	21,353		8,621	7,065	12,569
Marble.....						87							
Nails.....						1							
Oil cake.....	2,705	1,302	110	740	16,497	228		114					
Oats.....	39,706	26,344	10,006	6,112	3	10,892	11,323	4,741	2,070				1,400
Pease.....	4			22		76	11	25	40	63	123		150
Potatoes.....													
Rye.....	2,149			4,174				2	2				
Flax seed.....				1,591			756			15,452			
Seeds, all kinds.....			10	27		13	3	17					
Tobacco.....		23											
Wheat.....	18,771	23,557	32,639	15,436	14,269	15,483	13,410	21,802	24,651	17,940	10,717	4,950	15,911
Agricultural products, vegetable.....	6	10		1			1	7		22,620		19	37
Hides and skins, &c.....									21	315	233		
Horses.....	4			2									
Lard and lard oil, &c.....	1,588	1,680	2,413				22	86					
Meats, other than pork.....													
Pork.....	117	970	632	152	379	273	268	429	190				
Sheep.....													
Tallow.....	631	119											
Wool.....		3	752	482	134	21	89	30		157	233	9	
Total, class 3.....	154,680	147,947	146,581	168,720	130,301	163,301	196,301	196,061	182,085	161,738	164,564	134,054	133,659



Class	b.	a.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.	r.	s.	t.	u.	v.	w.	x.	y.	z.	aa.	ab.	ac.	ad.	ae.	af.	ag.	ah.	ai.	aj.	ak.	al.	am.	an.	ao.	ap.	aq.	ar.	as.	at.	au.	av.	aw.	ax.	ay.	az.	ba.	bb.	bc.	bd.	be.	bf.	bg.	bh.	bi.	bj.	bk.	bl.	bm.	bn.	bo.	bp.	bq.	br.	bs.	bt.	bu.	bv.	bw.	bx.	by.	bz.	ca.	cb.	cc.	cd.	ce.	cf.	cg.	ch.	ci.	cj.	ck.	cl.	cm.	cn.	co.	cp.	cq.	cr.	cs.	ct.	cu.	cv.	cw.	cx.	cy.	cz.	da.	db.	dc.	dd.	de.	df.	dg.	dh.	di.	dj.	dk.	dl.	dm.	dn.	do.	dp.	dq.	dr.	ds.	dt.	du.	dv.	dw.	dx.	dy.	dz.	ea.	eb.	ec.	ed.	ee.	ef.	eg.	eh.	ei.	ej.	ek.	el.	em.	en.	eo.	ep.	eq.	er.	es.	et.	eu.	ev.	ew.	ex.	ey.	ez.	fa.	fb.	fc.	fd.	fe.	ff.	fg.	fh.	fi.	fj.	fk.	fl.	fm.	fn.	fo.	fp.	fq.	fr.	fs.	ft.	fu.	fv.	fw.	fx.	fy.	fz.	ga.	gb.	gc.	gd.	ge.	gf.	gg.	gh.	gi.	gj.	gk.	gl.	gm.	gn.	go.	gp.	gq.	gr.	gs.	gt.	gu.	gv.	gw.	gx.	gy.	gz.	ha.	hb.	hc.	hd.	he.	hf.	hg.	hh.	hi.	hj.	hk.	hl.	hm.	hn.	ho.	hp.	hq.	hr.	hs.	ht.	hu.	hv.	hw.	hx.	hy.	hz.	ia.	ib.	ic.	id.	ie.	if.	ig.	ih.	ii.	ij.	ik.	il.	im.	in.	io.	ip.	iq.	ir.	is.	it.	iu.	iv.	iw.	ix.	iy.	iz.	ja.	jb.	jc.	jd.	je.	jf.	jj.	jk.	jl.	jm.	jn.	jo.	jp.	jq.	jr.	js.	jt.	ju.	jv.	jw.	jx.	ky.	kz.	la.	lb.	lc.	ld.	le.	lf.	lg.	lh.	li.	lj.	lk.	ll.	lm.	ln.	lo.	lp.	lq.	lr.	ls.	lt.	lu.	lv.	lw.	lx.	ly.	lz.	ma.	mb.	mc.	md.	me.	mf.	mg.	mh.	mi.	mj.	mk.	ml.	mm.	mn.	mo.	mp.	mq.	mr.	ms.	mt.	mu.	mv.	mw.	mx.	my.	mz.	na.	nb.	nc.	nd.	ne.	nf.	ng.	nh.	ni.	nj.	nk.	nl.	nm.	nn.	no.	np.	nq.	nr.	ns.	nt.	nu.	nv.	nw.	nx.	ny.	nz.	oa.	ob.	oc.	od.	oe.	of.	og.	oh.	oi.	oj.	ok.	ol.	om.	on.	oo.	op.	oq.	or.	os.	ot.	ou.	ov.	ow.	ox.	oy.	oz.	pa.	pb.	pc.	pd.	pe.	pf.	pg.	ph.	pi.	pj.	pk.	pl.	pm.	pn.	po.	pp.	pq.	pr.	ps.	pt.	pu.	pv.	pw.	px.	py.	pz.	qa.	qb.	qc.	qd.	qe.	qf.	qg.	qh.	qi.	qj.	qk.	ql.	qm.	qn.	qo.	qp.	qq.	qr.	qs.	qt.	qu.	qv.	qw.	qx.	qy.	qz.	ra.	rb.	rc.	rd.	re.	rf.	rg.	rh.	ri.	rj.	rk.	rl.	rm.	rn.	ro.	rp.	rq.	rr.	rs.	rt.	ru.	rv.	rw.	rx.	ry.	rz.	sa.	sb.	sc.	sd.	se.	sf.	sg.	sh.	si.	sj.	sk.	sl.	sm.	sn.	so.	sp.	sq.	sr.	ss.	st.	su.	sv.	sw.	sx.	sy.	sz.	ta.	tb.	tc.	td.	te.	tf.	tg.	th.	ti.	tj.	tk.	tl.	tm.	tn.	to.	tp.	tq.	tr.	ts.	tt.	tu.	tv.	tw.	tx.	ty.	tz.	ua.	ub.	uc.	ud.	ue.	uf.	ug.	uh.	ui.	uj.	uk.	ul.	um.	un.	uo.	up.	uq.	ur.	us.	ut.	uu.	uv.	uw.	ux.	uy.	uz.	va.	vb.	vc.	vd.	ve.	vf.	vg.	vh.	vi.	vj.	vk.	vl.	vm.	vn.	vo.	vp.	vq.	vr.	vs.	vt.	vu.	vv.	vw.	vx.	vy.	vz.	wa.	wb.	wc.	wd.	we.	wf.	wg.	wh.	wi.	wj.	wk.	wl.	wm.	wn.	wo.	wp.	wq.	wr.	ws.	wt.	wu.	wv.	ww.	wx.	wy.	wz.	xa.	xb.	xc.	xd.	xe.	xf.	xg.	xh.	xi.	xj.	xk.	xl.	xm.	xn.	xo.	xp.	xq.	xr.	xs.	xt.	xu.	xv.	xw.	xx.	xy.	xz.	ya.	yb.	yc.	yd.	ye.	yf.	yg.	yh.	yi.	yj.	yk.	yl.	ym.	yn.	yo.	yp.	yq.	yr.	ys.	yt.	yu.	yv.	yw.	yx.	yy.	yz.	za.	zb.	zc.	zd.	ze.	zf.	zg.	zh.	zi.	zj.	zk.	zl.	zm.	zn.	zo.	zp.	zq.	zr.	zs.	zt.	zu.	zv.	zw.	zx.	zy.	zz.
Agricultural implements																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</																																																																																																	



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L.—STATEMENT of the quantity of Grain Transhipped to the following Ports for the season of 1912.

Ports.	Wheat.	Oats.	Barley.	Corn.	Other grain.	Total.	Total.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Tons.
Kingston. ....	7,401,867	4,012,177	560,542	145,143	334	12,120,063	307,790
Prescott. ....	14,000	.....	.....	.....	.....	14,000	420
Ogdensburg....	.....	.....	.....	49,000	.....	49,000	1,372
Total bushels	7,415,867	4,012,177	560,542	194,143	334	12,183,063	.....
Total tons...	222,476	68,307	13,453	5,436	10	.....	309,582



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M.—The quantity of Coal passed through the Welland canal during a series of years from 1885 to 1912 inclusive, as follows:—

Years.	From Canadian Ports to Canadian Ports.	From Canadian Ports to Canadian Ports.	From United States Ports to United States Ports.		From United States Ports to Canadian Ports.		Total.
	Up.	Down.	Up.	Down.	Up.	Down.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
1885.....			193,442	4,974	10,321	31,350	240,087
1886.....			184,564	5,400	22,187	49,724	261,875
1887.....			81,617	1,163	26,775	25,968	135,523
1888.....			172,381	878	17,365	27,183	217,807
1889.....			226,352	1,124	12,036	25,931	265,443
1890.....	80		116,616	615	17,280	22,781	202,372
1891.....			185,190	1,382	17,374	20,698	224,644
1892.....			183,244	651	12,391	15,330	211,616
1893.....			204,704	2,123	8,325	17,944	233,096
1894.....			187,794	727	1,269	13,947	203,737
1895.....	4		148,887	603	1,565	7,807	158,866
1896.....	20	210	206,093	1,255	4,127	11,740	223,445
1897.....		4	165,143		1,277	9,799	176,223
1898.....			156,055	759	986	4,536	162,336
1899.....			86,638	2,293	525	8,276	97,732
1900.....	8		45,032	992		1,360	47,392
1901.....			46,345	357	456	2,322	49,480
1902.....			12,410	501	65	51,037	64,013
1903.....	3		113,076		4,796	30,009	147,884
1904.....	2,919		62,782	1,100	3,711	32,813	103,325
1905.....			70,118	3,346	11,436	37,742	172,642
1906.....	60		29,123	4,400	7,161	106,843	147,587
1907.....	2,857		110,347		10,453	143,555	267,212
1908.....	4,401		158,351		5,988	148,181	316,921
1909.....			130,731	400	11,067	235,483	377,681
1910.....	2,045		197,482	4,411	15,974	357,579	577,491
1911.....	731		221,752	2,160	24,451	370,558	619,682
1912.....			163,461	2,958	12,034	531,243	709,696



N.—STATEMENT showing the quantity of Coal passed through the whole length of the St. Lawrence canals during the season of 1885 to 1912, inclusive.

Years.	Quantity passed up.	Quantity passed down to Montreal.	Total Quantity passed up and down.
	Tons.	Tons.	Tons.
1885.	5,035	122,829	127,864
1886.	3,301	118,802	122,103
1887.	7,579	121,618	129,197
1888.	8,341	123,050	131,391
1889.	5,360	124,290	129,650
1890.	6,538	135,168	141,706
1891.	7,951	141,701	149,652
1892.	7,543	157,134	164,677
1893.	2,285	147,139	149,424
1894.	16,213	169,552	185,765
1895.		165,151	165,151
1896.	689	161,551	162,240
1897.	40	164,963	165,003
1898.	400	175,609	176,009
1899.	448	201,546	201,994
1900.	10	280,169	280,179
1901.	2,765	298,245	301,010
1902.	9,231	95,702	104,933
1903.	30	290,548	290,578
1904.	9,670	320,973	330,643
1905.	8,518	345,589	354,107
1906.	6,989	313,080	320,069
1907.	1,281	406,978	408,259
1908.	23,939	448,140	472,079
1909.	13,543	469,695	483,238
1910.	7,351	746,926	754,277
1911.	6,230	756,474	762,704
1912.	9,300	903,237	912,537



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O.—STATEMENT showing the quantity of Through Freight passed down the Welland canal, &amp;c.

## RECAPITULATION.

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports on Lake Ontario.
1901.	Tons.	Tons.	Tons.
Barley.....			
Corn.....	14,319	4,828	49,609
Oats.....	1,584	853	25,704
Pease.....			
Rye.....	2,961		
Wheat.....	132,702	8,051	9,057
Total, grain.....	†151,566	13,732	83,370
Other articles.....	32,854	128,614	91,799
Total.....	184,420	142,346	175,169
1902.			
Barley.....			7,418
Corn.....	1,719	10,335	55,583
Oats.....	1,412		9,764
Pease.....			
Rye.....	4,079		
Wheat.....	200,075	12,452	8,389
Total, grain.....	†208,215	22,787	81,165
Other articles.....	42,260	32,946	179,914
Total.....	250,475	55,733	261,078
1903.			
Barley.....	2,206	1,017	11,433
Corn.....	116,223	13,846	80,689
Oats.....	2,438		5,315
Pease.....	63		22
Rye.....	4,200		644
Wheat.....	226,746	14,199	13,725
Total, grain.....	\$351,936	29,062	111,828
Other articles.....	38,850	82,298	101,621
Total.....	390,786	111,360	213,449
1904.			
Barley.....	9,697	853	16,621
Corn.....	55,021	3,950	57,473
Oats.....			16,497
Pease.....			3
Rye.....			
Wheat.....	*133,528	18,908	11,929
Total, grain.....	198,246	23,711	102,523
Other articles.....	77,031	80,092	138,475
Total.....	375,277	103,803	240,998



O.—STATEMENT showing the Quantity of Through Freight passed down the Welland canal, &c.—*Continued.*

RECAPITULATION—*Concluded.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports on Lake Ontario.
1905.	Tons.	Tons.	Tons.
Barley . . . . .	43,607	2,628	9,197
Corn . . . . .	84,204	3,095	93,622
Oats . . . . .	21,404	3,776	16,892
Pease . . . . .			76
Rye . . . . .	1,711		
Wheat . . . . .	190,505	32,562	15,483
Total grain . . . . .	**341,431	42,061	129,270
Other articles . . . . .	107,273	123,225	104,747
Total . . . . .	448,704	165,286	234,017
1906.			
Barley . . . . .	21,196	984	9,266
Corn . . . . .	55,559	15,688	140,558
Oats . . . . .	37,164	819	11,323
Pease . . . . .		11	
Rye . . . . .	1,405	6	
Wheat . . . . .	***289,611	15,843	14,972
Total grain . . . . .	404,935	33,351	176,119
Other articles . . . . .	118,224	176,277	59,884
Total . . . . .	523,159	209,628	236,003
1907.			
Barley . . . . .	9,936	492	2,812
Corn . . . . .	106,299	31,901	133,493
Oats . . . . .	67,063	1,565	4,741
Pease . . . . .			25
Rye . . . . .	2,266	2	2
Wheat . . . . .	*450,009	8,072	22,222
Total grain . . . . .	635,573	42,032	163,295
Other articles . . . . .	153,594	126,423	93,127
Total . . . . .	789,167	168,455	256,422
1908.			
Barley . . . . .	24,318	3,546	3,308
Corn . . . . .	10,454	11,489	105,459
Oats . . . . .	28,081	3,272	2,070
Pease . . . . .			40
Rye . . . . .	6,662	3	2
Wheat . . . . .	†686,626	19,832	24,293
Total grain . . . . .	756,141	38,142	135,1772
Other articles . . . . .	108,785	162,378	91,875
Total . . . . .	864,926	200,520	227,047



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O.—STATEMENT showing Quantity of Through Freight passed down the Welland canal, &c.—*Concluded*RECAPITULATION—*Concluded.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports on Lake Ontario.
1909.	Tons.	Tons.	Tons.
Barley.....	19,143	.....	4,008
Corn.....	17,137	22,798	100,967
Oats.....	65,624	2,872	6,639
Pease.....	30	.....	33
Rye.....	33	.....	.....
Wheat.....	550,775	14,568	17,940
Total grain.....	652,742	40,238	129,587
Other articles.....	272,263	113,970	126,223
Total.....	925,005	154,208	255,810
1910.			
Barley.....	20,000	.....	1,575
Corn.....	77,612	49,326	103,042
Oats.....	129,900	6,333	.....
Pease.....	.....	.....	123
Rye.....	.....	.....	.....
Wheat.....	562,149	7,998	10,717
Total grain.....	789,661	63,657	115,457
Other articles.....	380,500	152,325	55,683
Total.....	1,170,161	215,982	171,140
1911.			
Barley.....	14,331	291	.....
Corn.....	134,239	22,988	116,705
Oats.....	147,180	16,153	.....
Pease.....	.....	.....	.....
Rye.....	.....	112	.....
Wheat.....	541,174	12,016	4,950
Total grain.....	836,924	51,560	121,655
Other articles.....	500,881	115,721	55,790
Total.....	1,337,805	167,281	177,445
1912.			
Barley.....	20,572	218	4,451
Corn.....	7,345	1,372	112,616
Oats.....	164,581	20,965	.....
Pease.....	10	12	128
Rye.....	714	.....	.....
Wheat.....	768,633	25,299	.....
Total grain.....	961,855	47,866	117,195
Other articles.....	598,108	214,395	69,444
Total.....	1,559,963	262,261	186,639



TABLE 1.—COMPARATIVE STATEMENT of Grand Total Freight passed through the undermentioned Canals during the Seasons of Navigation 1911 and 1912.

	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.		FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		Total Tons.	ORIGIN OF CARGO.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	United States.
1911.													
Sault Ste. Marie.....	644,899	1,585,279	22,157	915,601	2,236,880	23,269,870	2,070,307	206,716	4,974,243	25,977,466	30,951,709	3,177,581	27,774,128
Welland.....	318,764	827,392	190,101	693	309,603	175,752	24,451	690,873	842,919	1,694,710	2,537,629	1,296,480	1,241,149
St. Lawrence.....	629,642	1,086,547	328,732	38,085	194	12	392	1,022,104	958,960	2,146,748	3,105,708	2,063,861	1,041,847
Chambly.....	399,728	12,647	31,465	.....	.....	.....	.....	155,989	431,193	168,636	599,829	443,846	155,983
St. Peters.....	29,177	46,121	.....	.....	.....	.....	.....	.....	29,177	46,121	75,298	75,298	.....
Murray.....	152,964	6,798	15	.....	.....	.....	.....	3,680	152,979	10,478	163,457	159,409	4,048
Ottawa.....	53,453	221,029	.....	41,340	.....	.....	4,249	.....	57,702	262,369	320,071	312,269	7,802
Rideau.....	77,378	84,831	.....	.....	.....	.....	.....	10,018	77,378	94,849	172,227	159,738	12,489
Trent.....	23,908	33,382	.....	.....	.....	.....	.....	.....	23,908	33,382	57,290	57,290	.....
St. Andrews.....	40,603	6,532	.....	.....	.....	.....	.....	.....	40,603	6,532	47,135	47,135	.....
Grand total.....	2,370,516	3,910,558	572,470	995,719	2,546,677	23,445,634	2,099,399	2,089,380	7,598,062	30,441,291	38,030,353	7,792,907	30,237,446
1912.													
Sault Ste. Marie.....	770,976	2,162,521	16,883	857,777	1,807,181	32,253,916	1,326,457	473,944	3,921,497	35,748,158	38,669,655	4,090,362	35,579,293
Welland.....	440,946	975,826	137,305	3,699	235,437	180,319	12,034	866,349	825,722	2,026,193	2,851,915	1,553,116	1,298,799
St. Lawrence.....	678,046	1,371,077	280,438	48,306	201	500	196	1,098,424	958,881	2,518,307	3,477,188	2,340,143	1,137,045
Chambly.....	5,939	9,378	432,324	.....	.....	.....	.....	170,774	438,263	180,152	618,415	447,702	170,713
St. Peters.....	33,575	40,934	.....	.....	.....	.....	.....	300	33,575	41,234	74,809	74,509	300
Murray.....	162,155	5,429	300	.....	.....	.....	866	1,331	163,321	6,760	170,081	167,520	2,561
Ottawa.....	53,092	283,637	.....	51,886	.....	.....	3,735	.....	56,827	335,523	392,350	383,515	8,835
Rideau.....	78,570	68,986	.....	170	.....	.....	.....	12,407	78,570	82,563	160,133	146,963	13,170
Trent.....	29,101	48,049	.....	.....	.....	.....	.....	.....	29,101	48,049	77,150	77,150	.....
St. Andrews.....	88,044	7,505	.....	.....	.....	.....	.....	.....	88,044	7,505	95,549	95,549	.....
Grand total.....	2,340,444	4,973,342	867,250	961,838	2,042,819	32,434,735	1,343,288	2,623,529	6,593,801	40,993,444	47,587,245	9,376,529	38,210,716



TABLE 2.—STATEMENT showing the Number, Tonnage and Nationality of Vessels passed through the several Canals during the season of Navigation in 1912.

VESSELS.	TOTAL NUMBER OF TRIPS.	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.		FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		TOTAL TONS.
		Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.			
CANADIAN VESSELS.												
<i>Steam and Sail.</i>												
Sault Ste. Marie.....	2,643	1,360,637	1,334,448	178,172	17,625	1,008		170,567	233,772	1,710,384	1,585,845	3,296,229
Welland .....	1,946	660,299	622,509	240,100	1,222	6,717	1,053	5,599	277,466	912,715	902,250	1,814,965
St. Lawrence.....	9,201	1,600,803	1,484,099	162,802		10		604	248,184	1,764,219	1,732,283	3,496,502
Chambly.....	486	17,515	18,053	5,353					4,629	22,868	22,682	45,550
St. Peters.....	1,205	44,813	43,546						160	44,813	43,706	88,519
Murray.....	1,010	229,437	115,434	24,824		2,172		3,696	10,739	260,129	126,173	386,302
Ottawa.....	2,662	235,730	242,613		2,139			269		235,999	244,752	480,751
Rideau .....	2,960	96,732	99,111	6,156	190				6,500	102,888	105,801	208,689
Trent.....	3,998	106,952	101,903							106,952	101,903	208,855
St. Andrews. . . . .	1,260	104,385	206,588							104,385	106,588	210,973
Total Canadian.....	27,371	4,457,303	4,168,304	617,407	21,176	9,907	1,053	180,735	781,450	5,265,352	4,971,983	10,237,335
UNITED STATES VESSELS.												
Sault Ste. Marie.....	5,213	10,104	902	114,132	427,591	5,486,876	15,812,674	601,928	81,808	6,213,040	16,322,975	22,536,015
Welland.....	959	1,278	1,323	126,462	1,882	268,637	196,210	4,691	264,052	401,068	463,467	864,535
St. Lawrence .....	1,805	24,815	10,649	351,208	20,389	22,824	2,937	61	413,450	398,908	447,425	846,333
Chambly.....	3,319	97	1,352	170,749					172,237	170,846	173,589	344,435
St. Peters.. . . .	8	304	210		56			56		360	266	626
Murray.. . . .	75	419	152	875	234	197	90	477	317	1,968	793	2,761
Ottawa .....	397	12,786	536		20,178			7,098		19,884	20,714	40,598
Rideau.....	9	493	394							493	394	887
Trent.....												
St. Andrews .....												
Total United States.....	11,785	50,296	15,518	763,426	470,330	5,778,534	16,011,911	614,311	931,864	7,206,567	17,429,623	24,636,190
Grand Total Canadian and United States.....	39,156	4,507,599	4,183,822	1,380,833	491,506	5,788,441	16,012,964	795,046	1,731,314	12,471,919	22,401,606	34,873,525



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TABLE 3.—STATEMENT showing the Number, Tonnage and Nationality of Vessels

VESSELS.	Total Number	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.	
		Up.	Down.	Up.	Down.
SAULTE STE. MARIE CANAL.					
Canadian vessels, steam.....	2,492	1,343,837	1,321,483	178,172	17,127
" " sail.....	151	16,800	12,965	.....	498
Total Canadian.....	2,643	1,360,637	1,334,448	178,172	17,625
United States vessels, steam.....	5,190	9,108	196	114,132	425,059
" " sail.....	23	996	706	.....	2,532
Total United States .....	5,213	10,104	902	114,132	427,591
Grand Total,Sault Ste. Marie canal ..	7,856	1,370,741	1,335,350	292,304	445,216
WELLAND CANAL.					
Canadian vessels, steam.....	1,613	596,464	556,626	208,828	1,222
" " sail.....	333	63,835	65,883	31,272	.....
Total Canadian... ..	1,946	660,299	622,509	240,100	1,222
United States vessels, steam. ....	867	1,278	1,323	108,019	1,294
" " " sail.....	92	.....	.....	18,443	588
Total United States.....	959	1,278	1,323	126,462	1,882
Grand Total, Welland canal... ..	2,905	661,577	623,832	366,562	3,104
ST. LAWRENCE CANALS.					
Canadian vessels, steam... ..	4,382	952,126	854,302	150,621	.....
" " sail.....	4,819	648,677	629,797	12,181	.....
Total Canadian.....	9,201	1,600,803	1,484,099	162,802	.....
United States vessels, steam.....	1,164	3,244	3,146	332,353	63
" " " sail .....	641	21,571	7,503	18,855	20,326
Total United States.....	1,805	24,815	10,649	351,208	20,389
Grand Total, St. Lawrence canals. ..	11,006	1,625,618	1,494,748	514,010	20,389
CHAMBLY CANAL.					
Canadian vessels, steam.....	279	13,945	14,154	142	.....
" " sail.....	207	3,570	3,899	5,211	.....
Total Canadian... ..	486	17,515	18,053	5,353	.....
United States vessels, steam.....	1	97	.....	.....	.....
" " sail.....	3,318	.....	1,352	170,749	.....
Total United States.....	3,319	97	1,352	170,749	.....
Grand total, Chambly canal .....	3,705	17,612	19,405	176,102	.....
ST. PETERS CANAL.					
Canadian vessels, steam... ..	353	19,725	16,775	.....	.....
" " sail .....	852	25,088	26,771	.....	.....
Total Canadian.....	1,205	44,813	43,546	.....	.....



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passed through the several canals, during the Season of Navigation in 1912.

FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		TOTAL TONS.
Up.	Down.	Up.	Down.	Up.	Down.	
1,008	...	170,118	232,887	1,693,135	1,571,497	3,264,632
...	...	449	885	17,249	14,348	31,597
1,008	...	170,567	233,772	1,710,384	1,585,845	3,296,229
5,486,165	15,809,670	596,682	81,608	6,206,087	16,316,533	22,522,620
711	3,004	5,246	200	6,953	6,442	13,395
5,486,876	15,812,674	601,928	81,808	6,213,040	16,322,975	22,536,015
5,487,884	15,812,674	772,495	315,580	7,923,424	17,908,820	25,832,244
6,335	1,053	5,599	242,162	817,226	801,063	1,618,289
382	...	...	35,304	95,489	101,187	196,676
6,717	1,053	5,599	277,466	912,715	902,250	1,814,965
263,106	187,767	3,515	238,290	375,918	428,674	804,592
5,531	8,443	1,176	25,762	25,150	34,793	59,943
268,637	196,210	4,691	264,052	401,068	463,467	864,535
275,354	197,263	10,290	541,518	1,313,783	1,365,717	2,679,500
10	...	...	221,197	1,102,757	1,075,499	2,178,256
...	...	604	26,987	661,462	656,784	1,318,246
10	...	604	248,184	1,764,219	1,732,283	3,496,502
22,649	2,752	61	375,439	358,307	381,400	739,707
175	185	...	38,011	40,601	66,025	106,626
22,824	2,937	61	413,450	398,908	447,425	846,333
22,834	2,937	665	661,634	2,163,127	2,179,708	4,342,835
...	...	...	...	14,087	14,154	28,241
...	...	...	4,629	8,781	8,528	17,309
...	...	...	4,629	22,868	22,682	45,550
...	...	...	...	97	...	97
...	...	...	172,237	170,749	173,589	344,338
...	...	...	172,237	170,846	173,589	344,435
...	...	...	176,866	193,714	196,271	389,985
...	...	...	...	19,725	16,775	36,500
...	...	...	160	25,088	26,931	52,019
...	...	...	160	44,813	43,706	88,519



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TABLE 3—STATEMENT showing the Number, Tonnage, and Nationality of Vessels

VESSELS.	Total Number	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.	
		Up.	Down.	Up.	Down.
ST. PETER'S CANAL— <i>Con.</i>					
United States vessels, steam.....	2	176	13	.....	.....
" " sail.....	6	128	197	.....	56
Total United States.....	8	304	210	.....	56
Grand total, St. Peter's canals. ....	1,213	45,117	43,756	.....	56
MURRAY CANAL.					
Canadian vessels, steam. . . . .	834	205,664	94,153	22,135	.....
" " sail. ....	176	23,773	21,281	2,689	.....
Total Canadian. ....	1,010	229,437	115,434	24,824	.....
United States vessels, steam.....	65	419	131	441	81
" " sail. ....	10	.....	21	434	153
Total United States.....	75	419	152	875	234
Grand total, Murray canal.....	1,085	229,856	115,856	25,699	234
OTTAWA CANALS.					
Canadian vessels, steam... ..	1,007	97,961	104,438	.....	841
" " sail. ....	1,655	137,769	138,175	.....	1,298
Total Canadian.....	2,662	235,730	242,613	.....	2,139
United States, vessels, steam.....	.....	.....	.....	.....	.....
" " sail. ....	397	12,786	536	.....	20,178
Total United States.....	397	12,786	536	.....	20,178
Grand total, Ottawa canals. ....	3,059	248,516	243,149	.....	22,317
RIDEAU CANAL.					
Canadian vessels, steam.....	2,257	65,614	68,385	6,156	190
" " sail.....	703	31,118	30,726	.....	.....
Total Canadian. ....	2,960	96,732	99,111	6,156	190
United States vessels steam. ....	.....	.....	.....	.....	.....
" " sail. ....	9	493	394	.....	.....
Total United States.....	9	493	394	.....	.....
Grand total, Rideau canal. ....	2,969	97,225	99,505	6,156	190
TRENT VALLEY CANALS.					
Canadian vessels, steam.....	3,227	76,848	73,392	.....	.....
" " sail.....	771	30,104	28,511	.....	.....
Total Canadian. . . . .	3,998	106,952	101,903	.....	.....
United States vessels, steam.....	.....	.....	.....	.....	.....
" " sail.....	.....	.....	.....	.....	.....
Total United States.. ..	.....	.....	.....	.....	.....
Grand total, Trent Valley canals ....	3,998	106,952	101,903	..	.....



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passed through the several Canals during the Season of Navigation in 1912—*Con.*

FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		TOTAL TONS.
Up.	Down.	Up.	Down.	Up.	Down.	
				176	13	189
		56		184	253	437
		56		360	266	626
		56	160	45,173	43,972	89,115
2,172		3,593	9,739	233,564	103,892	337,456
		103	1,000	26,565	22,281	48,846
2,172		3,696	10,739	260,129	126,173	386,302
197	90	267	293	1,324	595	1,919
		210	24	644	198	842
197	90	477	317	1,968	793	2,761
2,369	90	4,173	11,056	262,097	126,966	389,063
		269		98,230	105,279	203,509
				137,769	139,473	277,242
		269		235,999	244,752	480,751
		7,098		19,884	20,714	40,598
		7,098		19,884	20,714	40,598
		7,367		255,883	265,466	521,349
			6,500	71,770	75,075	146,845
				31,118	30,726	61,844
			6,500	102,888	105,801	208,689
				493	394	887
				493	394	887
			6,500	103,381	106,195	209,576
				76,848	70,392	150,240
				30,104	28,511	58,615
				106,952	101,993	208,855
				106,952	101,903	208,855



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TABLE 3.—STATEMENT showing the Number, Tonnage and Nationality of Vessels passed

VESSELS.	Total Number	FROM CANADIAN TO CANADIAN PORTS.		FROM CANADIAN TO UNITED STATES PORTS.	
		Up.	Down.	Up.	Down.
ST. ANDREWS CANAL.					
Canadian vessels, steam.....	743	48,748	50,126	.....	.....
" " sail.....	517	55,637	56,462	.....	.....
Total Canadian . . . . .	1,260	104,385	106,588	.....	.....
United States vessels, steam.....	.....	.....	.....	.....	.....
" " sail.....	.....	.....	.....	.....	.....
Total United States. . . . .	.....	.....	.....	.....	.....
Grand total, St. Andrews canal.....	1,260	104,385	106,588	.....	.....



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through the several Canals during the Season of Navigation in 1912—*Concluded.*

FROM UNITED STATES TO UNITED STATES PORTS.		FROM UNITED STATES TO CANADIAN PORTS.		TONS.		TOTAL TONS.
Up.	Down.	Up.	Down.	Up.	Down.	
				48,748	50,126	98,874
				55,637	56,462	112,099
				104,385	106,588	210,973
				104,385	106,588	210,973



TABLE 4.—Comparative Statement of all the canals for the Years ending December 31, 1911 and 1912.

Articles.	1911.	1912.	Increase.	Decease.
<i>Class No. 1.</i>	Tons.	Tons.	Tons.	Tons.
Canadian vessels—Steam.....	7,286,949	8,062,842	775,893	.....
"    Sail.....	1,885,243	2,174,493	289,250	.....
United States vessels—Steam.....	17,517,229	21,069,124	6,551,895	.....
"    "    Sail.....	714,393	567,066	.....	147,327
Total, Class No. 1.....	27,403,814	34,873,525	7,617,038	147,327
<i>Class No. 2.</i>	No.	No.	No.	No.
Passengers. ....	304,904	292,267	.....	12,637
<i>Class No. 3.</i>	Tons.	Tons.	Tons.	Tons.
Barley.....	145,576	206,789	61,213	.....
Buckwheat .....	84	253	169	.....
Corn .. ..	451,597	148,218	.....	303,379
Oats.....	657,878	762,302	104,424	.....
Rye.....	3,701	13,263	9,562	.....
Flax.....	97,334	224,848	125,514	.....
Pease.....	163	228	65	.....
Wheat.....	3,528,185	5,122,696	1,594,511	.....
Flour.....	366,870	342,636	.....	24,234
Hay.....	73,013	35,420	.....	37,593
Other mill products.....	41,683	27,894	.....	13,189
Fruit and vegetables .....	12,740	10,836	.....	1,904
Potatoes .....	8,839	8,293	.....	546
Live stock....	3,135	1,692	.....	1,443
Poultry, game and fish .....	2,062	2,710	648	.....
Dressed meats.....	712	346	.....	366
Other packing house products .....	1,266	2,403	1,137	.....
Hides and leather.....	236	493	257	.....
Wool.....	1,319	1,075	.....	244
All other animal products.....	10,901	11,469	568	.....
Total, Class No. 3.....	5,408,694	6,923,864	1,898,068	382,898
<i>Class No. 4.</i>				
Agricultural implements.....	41,291	42,116	825	.....
Cement, bricks, lime.....	654,629	537,093	.....	117,536
Household goods and furniture.....	2,971	2,958	.....	13
Iron, pig and bloom.....	61,119	99,251	38,132	.....
Iron and steel, all other .....	418,169	458,762	40,593	.....
Petroleum and other oils.....	194,105	144,205	.....	49,900
Sugar.....	59,979	41,338	.....	18,641
Salt.....	29,984	23,071	.....	6,913
Wines, liquors and beer .. ..	22,203	31,632	9,429	.....
Merchandise not enumerated.....	874,613	848,522	.....	26,091
Total, Class No. 4 .. ..	2,359,063	2,228,948	88,979	219,094
<i>Class No. 5.</i>				
Pulpwood.....	823,494	762,156	.....	61,338
Sawed lumber.....	596,588	723,935	127,347	.....
Squared timber,....	42,924	58,484	15,560	.....
Shingles.....	12,422	6,851	.....	5,571
Other woods .....	70,711	83,196	12,485	.....
Total, Class No. 5.....	1,546,139	1,634,622	155,392	66,909



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TABLE 4.—Comparative Statement of all the canals for the Years ending December 31, 1911 and 1912—*Concluded*.

Articles.	1911.	1912.	Increase.	Decrease.
<i>Class No. 6.</i>	Tons.	Tons.	Tons.	Tons.
Hard coal.. . . . .	1,246,273	1,178,917	.. . . .	67,356
Soft coal.... . . . .	4,668,843	3,786,969	.. . . .	881,874
Coke..... . . . .	14,160	12	.. . . .	14,148
Copper ore..... . . . .	16,556	40,322	23,766	.. . . .
Iron ore..... . . . .	22,715,838	31,219,646	8,503,808	.. . . .
Other ore. . . . .	6,849	57,951	51,102	.. . . .
Sand and cement..... . . . .	47,938	515,994	468,056	.. . . .
Total, Class No. 6..... . . . .	28,716,457	39,799,811	9,046,732	963,378
Grand Total .. . . . .	38,030,353	47,587,245	11,189,171	1,632,279

Net increase 9,556,892 tons.







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Class No. 4.											
Agricultural implements .....	20,380	20,385	163	109	9	118	876	41	5		
Cement, bricks, lime .....	211,008	146,829	78,696	2,118	1,110	2,331	1,631	1,612			
Household goods and furniture ..	1	100	1,624	133	56	341	540	128	12		
Iron, pig and bloom .....	45,533	14,638	6,491	476	79	1,065	903	66			
Iron and steel, all other .....	209,056	124,353	121,291	1,555	246	1,259	983	6	2		
Petroleum and other oils .....	6,488	76,863	57,941	152	921	754	961	51			
Sugar .....	9,126	19,718	9,951	785		10	580	29			
Salt .....	12,929	1,912	3,431		1,521	1,471	1,807				
Wines, liquors and beers .....	8,041	10,460	10,838	32	180	914	1,144	23			
Merchandise not enumerated .....	422,741	210,311	173,665	6,240	3,431	11,538	9,389	1,503	41		
Total, Class No. 4 .....	975,303	625,569	464,091	11,600	7,583	101,511	18,814	3,459	60		
Class No. 5.											
Pulpwood .....	12,372	167,985	294,125	258,268			1,269	21,315	6,822		
Sawed lumber .....	30,541	38,050	246,435	164,862	9,524	206,094	23,516	2,730	2,177		
Squared timber .....	4,440	19,129	29,293	1,814		100	199	1,606			
Shingles .....	5,570	250	122	34	418	120	192	145			
Other woods .....	1,191	2,270	8,785	335	1,219	18,783	3,466	41,693	5,151		
Total, Class No. 5 .....	54,114	227,684	578,760	425,313	11,161	226,600	28,612	69,480	14,153		
Class No. 6.											
Hard coal .....	431,224	175,495	437,334	119,928	573	1,333	7,525	138	506		
Soft " .....	2,511,217	534,201	665,981	877	39,970	1,906	7,141	172			
Coke .....				23,350	10		2				
Copper ore .....	16,963										
Iron " .....	31,141,063	66,105	12,467				6	5			
Other " .....	5,607	12,671	9,572	17,794	2,089	5,100	2,455	2,663			
Sand, &c. ....		3,600	180,041			64,140	88,402	349	80,733		
Total, Class No. 6 .....	34,109,074	792,072	1,305,395	161,458	37,642	67,379	105,531	3,327	81,299		
Grand total .....	39,669,655	2,851,915	3,477,188	618,415	74,809	170,081	160,133	77,150	95,549		







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Peas.....	150	23	.....	1	.....	2	7	45	.....
Wheat.....	795,989	793,731	.....	.....	.....	94	735	1,530	.....
Flour.....	45,807	54,321	1,092	1,574	.....	385	471	99	16
Hay.....	.....	13,217	14,935	1,541	.....	3,148	1,072	161	5
Other mill products.....	14,539	7,163	411	1,083	34	761	643	179	.....
Fruit and vegetables.....	72	5,742	2,391	1,449	10	320	344	14	.....
Potatoes.....	15	686	68	6,732	404	466	85	113	11
Total.....	1,205,912	1,119,567	19,706	15,427	448	5,278	3,995	2,514	37
<i>Manufactures.</i>									
Agricultural implements.....	20,380	163	109	9	.....	148	876	41	5
Cement, bricks and lime.....	211,008	78,696	2,118	1,140	.....	2,331	1,631	1,612	.....
Household goods and furniture.....	1	1,624	133	56	23	341	540	128	12
Iron—Pig and bloom.....	75,535	6,491	476	79	.....	1,065	903	66	.....
" steel, all other.....	209,056	121,291	1,555	246	13	1,257	983	6	2
Petroleum and other oils.....	6,488	57,941	152	921	74	754	961	51	.....
Sugar.....	9,126	9,951	785	.....	10	1,139	580	29	.....
Salt.....	12,929	3,431	.....	1,521	.....	1,471	1,807	.....	.....
Wines, liquors and beer.....	8,041	10,838	32	180	.....	914	1,144	23	.....
Merchandise not enumerated.....	422,741	173,665	6,240	3,431	9,663	11,538	9,389	1,503	41
Total.....	975,303	464,091	11,600	7,583	101,511	20,958	18,814	3,459	60
<i>Products of Mines.</i>									
Hard coal.....	434,224	437,334	119,928	573	1,333	1,801	7,525	138	566
Soft ".....	2,511,217	665,981	377	34,970	1,906	31,004	7,141	172	.....
Coke.....	.....	.....	.....	10	.....	.....	2	.....	.....
Copper ore.....	16,963	.....	23,359	.....	.....	.....	.....	.....	.....
Iron ".....	31,141,063	12,467	.....	.....	.....	.....	6	5	.....
Other ".....	5,607	9,572	17,794	2,089	64,140	5,160	2,455	2,663	.....
Sand, &c.....	.....	180,041	.....	.....	.....	98,729	88,402	349	80,733
Total.....	34,109,074	1,305,395	161,458	37,642	67,379	136,634	105,531	3,327	81,299
Grand totals (passengers and tonnage of vessels not included)...	39,669,655	3,477,188	618,415	74,809	170,081	392,350	160,133	77,150	95,549



TABLE 7, No. 1.—GENERAL STATEMENT showing the Quality of each Article Transported on the Sault Ste. Marie canal during the Season of Navigation in 1912.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	United States.
Agricultural implements.	20,380								20,380		20,380		
All other animal.		2								2	2		
Barley.....		67,593		19,189		69,454				157,957	157,957	91,106	66,851
Buckwheat.....													
Cement, bricks, &c.....	202,331		245		4,757		3,675		211,008		211,008	200,594	10,414
Coal, hard.....	50				294,810		139,361		434,224		434,224		434,224
" soft.....	100				1,402,754		1,108,363		2,511,217		2,511,217		2,511,217
Coke.....													
Corn.....													
Dressed meats.....													
Flax ..		38,859		49,895		99,727		2,920		191,401	191,401	98,345	93,056
Flour.....	15	178,223				41,809		18,824	15	238,856	238,871	193,417	45,454
Fruits and vegetables	100								100		100		
Hay.....	1,304								1,304		1,304		
Hides and leather.	20								20		20		
Household goods.....		1								1	1		
Iron, pig and bloom.....	45,206	3,020			125	5,306	21,876		67,207	8,326	75,533	48,226	27,307
Iron and steel, all other...	121,886	3,263			44,198	1,400	38,309		204,393	4,663	209,056	111,880	97,176
Live stock.....	22								22		22		
Merchandise .....	329,677	7,987	13,104	4,912	57,168	1,601	3,458	4,834	403,407	19,334	422,741	356,826	65,915
Oats .....	1,131	329,683		8,480		25,367		31,047	1,131	394,577	395,708	380,562	15,146
Other mill products.		1,130						1,975		3,105	3,105	1,130	1,975
" packing house products													
" woods ..	666	471					54		720	471	1,191	1,064	127
Ore, all other .....	360	300	3,054		1,893				5,307	300	5,607	660	4,947
" copper.....						16,963				16,963	16,963		16,963
" iron.....						30,869,816		264,435	6,812	31,134,251	31,141,063		31,141,063
Peas.....													
Petroleum.....	6,027	50	211				200		6,438	50	6,488	6,214	274
Poultry, game and fish		1	15						15	1	16	16	
Potatoes.....		117								117	117	117	
Pulpwood	12,372								12,372		12,372	12,372	







TABLE 7, No. 2.—General Statement showing the Quantity of each Article Transported on the Welland canal during the Season of Navigation in 1912.

ARTICLES.	From Canadian to Canadian Ports.		From Canadian to U. States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	United States.
Agricultural implements..	20,380	5							20,380	5	20,385	20,385	
All other animal .....													
Barley.....		22,375				2,160		706		25,241	25,241	22,375	2,866
Buckwheat.....	145,839	450	540						146,379	450	146,829	146,129	700
Cement, bricks, &c .....					163,461		12,034		175,495		175,495		175,495
Coal, hard.....						2,958		531,243		534,201	534,201		534,201
“ soft.....													
Coke.....													
Corn.....		2,297				91,254		27,782		121,333	121,333	116	121,217
Dressed meats .....		41								41	41		41
Flax .....		16,374	132						132	16,374	16,506	16,506	
Flour.....		33,513						2,416		45,807	45,807	34,743	11,064
Fruits and vegetables.....	35				37				72		72	35	37
Hay.....													
Hides and leather .....	140								140		140	140	
Household goods.....		7	93						93	7	100	100	
Iron, pig and bloom.....	13,198	320						1,120	13,198	1,440	14,638	13,518	1,120
Iron and steel, all other...	87,773	2,672	25			300		33,583	87,798	36,555	124,353	90,470	33,883
Live stock.....													
Merchandise.....	113,468	8,279	14,522		53,278	14,137		6,627	181,268	29,043	210,311	131,417	78,894
Oats.....		166,530				1,400		17,616		185,546	185,546	169,793	15,753
Other mill products.....					5	12,564		1,970	5	14,534	14,539		14,539
“ packinghouse products													
“ woods .....													
Ore, all other.....		6,224	3,054		3,393	2,270			6,447	2,270	2,270		2,270
“ copper.....										6,224	12,671	7,758	4,913
“ iron.....		791			1,586			63,728	1,586	64,519	66,105		66,105
Peas.....						150				150	150		150
Petroleum.....	642	33,821	50		2			42,348	694	76,169	76,863	33,118	43,745
Poultry, game and fish...					66				66		66		66
Potatoes.....	15								15		15	15	
Pulpwood .....	47,718		117,873		2,394			714	167,985		167,985	167,985	
Rye .....										714	714		714
Sand.....		3,600								3,600	3,600	3,600	







TABLE 7, No. 3.—GENERAL STATEMENT showing the Quantity of each Through Article Transported on the Welland canal during the Season of Navigation in 1912.

ARTICLES.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.		Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.			Canadian.	United States.
Agricultural implements.	20,380	5							20,380	5	20,385		20,385	
All other animal.														
Barley		22,375				2,160				706	25,241		22,375	2,866
Buckwheat.	145,839	450							146,379	450	146,129		146,129	700
Cement, bricks, &c.					163,461		12,034		175,495		175,495			175,495
Coal, hard.						2,958		531,243			534,201			534,201
" soft.														
Coke.														
Corn.		2,297				91,254		27,782			121,333		116	121,217
Dressed meats.		41									41			41
Flax.		16,374							132		16,374		16,506	
Flour.		33,513				9,878		2,416			45,807		34,743	11,064
Fruits and vegetables.	35				37				72		72		35	37
Hay.														
Hides and leather.	140								140		140		140	
Household goods.		7							93		100		100	
Iron, pig and bloom.	13,198	20						1,120	13,198	1,140	14,338		13,218	1,120
Iron and steel, all other.	87,593	164				300		32,443	87,618	32,907	120,525		87,782	32,743
Live stock.														
Merchandise.	113,468	8,149			53,278	14,137		4,921	181,268	27,207	208,475		131,287	77,188
Oats.		166,530				1,400		17,616		185,546	185,546		169,793	15,753
Other mill products.						12,564		1,970		14,534	14,539			14,539
" packing house products.														
" woods.						2,270					2,270			2,270
Ore, all other.		486			3,393				6,447	486	6,933		2,020	4,913
" copper.														
" iron.					1,586			63,728	1,586		65,314			65,314
Peas.						150				150	150			150
Petroleum.	642	33,821			2			42,348	694	76,169	76,863		33,118	43,745
Poultry, game and fish.					66				66		66			66
Potatoes.	15								15		15		15	
Pulpwood.					2,394				120,267		120,267		130,267	

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TABLE No. 4—General Statement showing the Quantity of each Way Article Transported on the Welland canal during the Season of Navigation in 1912.

ARTICLES.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	United States.
Agricultural implements.													
All other animal													
Barley													
Buckwheat.													
Cement, bricks, &c.													
Coal, hard													
" soft													
Coke													
Corn.													
Dressed meats.													
Flax.													
Flour.													
Fruits and vegetables.													
Hay													
Hides and leather.													
Household goods.													
Iron, pig and bloom		300								300	300		
Iron and steel, all other.	180	2,508						1,140	180	3,648	3,828	2,688	1,140
Live stock.													
Merchandise.		130						1,706		1,836	1,836	130	1,706
Oats													
Other mill products.													
" packing house products.													
" woods.													
Ore, all other		5,738								5,738	5,738	5,738	
" copper.													
" iron.		791								791	791		791
Peas.													
Petroleum.													
Poultry, game and fish.													
Potatoes													
Pulpwood.	47,718								47,718		47,718	47,718	







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TABLE 7, No. 5.—General Statement showing the Quantity of each Article Transported on the St. Lawrence canals during the Season of Navigation in 1912.

ARTICLES.	From Canada to Canadian Ports.		From Canada to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.			
	Up.		Down.		Up.		Down.		Up.			Down.		Canadian.	United States.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.					
Agricultural implements.	151	12							151	12	163	163			
All other animals..	1,102	6,146			3				1,105	6,146	7,251	7,248	3		
Barley.....	1,212	22,127							1,212	22,345	23,557	23,339	218		
Buckwheat.....	7								7		7	7			
Cement, bricks, &c.....	76,570	2,126							76,570	2,126	78,696	77,195	1,501		
Coal, hard.....	10,076	417				431		426,410	10,076	427,258	437,334	8,867	428,467		
" soft.....	143,781	22,092	2,348					497,760	146,129	519,852	665,981	164,010	501,971		
Coke.....															
Corn.....	56	18,470						8,181	56	26,651	26,707	1,270	25,437		
Dressed meats.....		60			5				5	60	65	19	46		
Flax.....	1,062	15,679	200						1,262	15,679	16,941	16,941			
Flour.....	3,905	50,136						280	3,905	50,416	54,321	54,041	280		
Fruits and vegetables.....	225	5,511			6				231	5,511	5,742	5,736	6		
Hay.....	6,449	6,133		635					6,449	6,768	13,217	13,217			
Hides and leather.....	120	163			2				122	163	285	285			
Household goods.....	612	928	78		6				696	928	1,624	1,618	6		
Iron, pig and bloom..	6,014	357						120	6,014	477	6,491	5,435	1,056		
Iron and steel, all other.....	87,694	10,636	75					22,886	87,769	33,522	121,291	96,899	24,392		
Live stock.....	61	541			1				62	541	603	602	1		
Merchandise.....	127,719	36,479	3,970		121	54			132,006	41,659	173,665	168,608	5,057		
Oats.....	6,988	161,795						7,973	6,988	169,768	176,756	168,780	7,976		
Other mill products.....	5,280	1,883							5,280	1,883	7,163	7,163			
" packing house products.....	273	492			1				274	492	766	765	1		
" wood.....	1,772	6,950			48	15			1,820	6,965	8,785	8,722	63		
Ore, all other.....	9,174	398							9,174	398	9,572	4,293	5,279		
" copper.....															
" iron.....								12,467		12,467	12,467		12,467		
Peas.....	1	22							1	22	23	23			
Petroleum.....	4,763	27,218						25,960	4,763	53,178	57,941	30,062	27,879		
Poultry, game and fish.....		36	50		2				52	36	88	86	2		
Potatoes.....	209	475			2				211	475	686	684	2		
Pulpwood.....	27,902		266,223						294,125		294,125	294,125			











						714	714	714	714
Rye . . . . .	.	.	.	.	.	714	. . . . .	. . . . .	714
Sand . . . . .	.	.	.	.	.	.	.	.	.
Sawed lumber . . . . .	1,295	.	.	.	.	.	8,789	8,789	.
Shingles . . . . .	.	.	.	.	.	.	.	.	.
Square timber . . . . .	.	.	.	.	.	2,600	17,855	16,355	1,500
Sugar . . . . .	5,343	.	.	.	.	458	3,515	8,400	458
Salt . . . . .	72	.	.	.	.	.	891	963	.
Wheat . . . . .	.	.	.	.	.	86,188	769,053	684,155	84,898
Wines, liquors and beers . . . . .	7,891	.	.	.	.	224	1,739	9,406	224
Wool . . . . .	317	.	.	.	.	.	.	317	.
Total freight . . . . .	289,593	1,010,713	278,090	.	.	1,074,827	567,683	2,085,540	1,073,999



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TABLE 7, No. 7.—GENERAL STATEMENT showing the Quantity of each Way Article Transported on the St. Lawrence canals during the Season of Navigation in 1912.

ARTICLES.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
												Canadian.	United States.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.					
Agricultural implements...	151	12							151	12	163	163	
All other animal. ....	896	1,960			3				899	1,960	2,859	2,856	3
Barley .....	1,212	1,245							1,212	1,245	2,457	2,457	
Buckwheat .....	7								7		7	7	
Cement, bricks, etc. ....	21,787	1,606							21,787	1,606	23,393	21,892	1,501
Coal, hard .....	5,876	417		431				9,848	5,876	10,696	16,572	4,667	11,905
" soft. ....	138,681	21,300	2,348					11,877	141,029	33,177	174,206	158,910	15,296
Coke .....													
Corn .....	56	17,094					840		56	17,931	17,990	1,154	16,836
Dressed meats .....		19			5				5	19	24	19	5
Flax .....	1,062	266							1,062	266	1,328	1,328	
Flour .....	3,883	12,390							3,883	12,390	16,273	16,273	
Fruits and vegetables .....	176	254			6				182	254	436	430	6
Hay .....	6,449	6,133		635					6,449	6,768	13,217	13,217	
Hides and leather .....		163			2				2	163	165	165	
Household goods ....	354	184			6				360	184	544	538	6
Iron, pig and bloom. ....	2,515	357							2,515	357	2,872	1,936	936
Iron and steel, all other...	11,538	4,228							11,538	4,228	15,766	15,766	
Live stock .....	59	529			1				60	529	589	588	1
Merchandise . . . . .	17,532	7,254			121	54		173	17,849	7,481	25,330	23,189	2,141
Oats .....	6,988	5,187							6,988	5,187	12,175	12,172	3
Other mill products...	5,275	1,438							5,275	1,438	6,713	6,713	
" packing house products...													
" ducts .....	272	125			1				273	125	398	397	1
" woods .....	1,772	6,950		15	48				1,820	6,965	8,785	8,722	63
Ore, all other .....	7,433	223							7,433	223	7,656	2,377	5,279
" copper .....													
" iron .....													
Peas .....	1								1		1	1	
Petroleum. . . . .	4,133	307							4,133	307	4,440	2,521	1,919
Poultry, game and fish .....		36			2				2	36	38	36	2
Potatoes .....	114	475			2				116	475	591	589	2







TABLE 7, No. 8.—GENERAL STATEMENT showing the Quantity of each Article Transported on the Chambly canal during the Season of Navigation in 1912.

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ARTICLES.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.		Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.			Canadian.	United States.
Agricultural implements.....	105	4							105	4	109		109	
All other animal.....														
Barley.....														
Buckwheat.....														
Cement, Bricks, &c.....	314	18							374	1,744	2,118		392	1,726
Coal, hard.....	3								3	119,925	119,928		3	119,925
" soft.....										377	377		10	367
Coke.....														
Corn.....	24	4							24	4	28		28	
Dressed meats.....	3	3							3	3	6		6	
Flax.....														
Flour.....	1,092								1,092		1,092		1,092	
Fruits and vegetables.....	464	1,927							464	1,927	2,391		2,391	
Hay.....	635	5,241							9,694	5,241	14,935		14,935	
Hides and leather.....		9								9	9		9	
Household goods.....	85	48							85	48	133		133	
Iron, pig and bloom.....	147								147	329	476		147	329
Iron and steel, all other.....	456	31							456	1,068	1,555		487	1,068
Live stock.....	3	214							3	214	217		217	
Merchandise.....	1,118	744							1,118	5,122	6,240		1,863	4,377
Oats.....	21	641							21	541	562		562	
Other mill products.....	343	68							343	68	411		411	
" packing house products.....	95								95		95		95	
" woods.....	10	325							10	325	335		335	
Ore, all other.....		79							374	17,420	17,794		503	17,291
" copper.....										23,359	23,359			23,359
" iron.....														
Peas.....														
Petroleum.....	152								152		152		152	
Poultry, game and fish.....	3	7							3	7	10		10	
Potatoes.....	51	17							51	17	68		68	
Pulpwood.....									258,268		258,268		258,268	











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[illegible]



TABLE 7, No. 10.—General Statement showing the Quantity of each Article Transported on the Murray canal during the Season of Navigation in 1912.

ARTICLES.	From Canadian to Canadian Ports.		From Canadian to U. States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	United States.
Agricultural implements.													
All other animal.	15	22							15	22	37		
Barley.													
Buckwheat.													
Cement, bricks, &c.	91,728						866		91,728		91,728		
Coal, hard.	467								1,333		1,333	150	1,183
" soft.		600						1,306	1	1,906	1,906	600	1,306
Coke.													
Corn.													
Dressed meats.													
Flax.													
Flour.													
Fruits and vegetables.	112	292							112	292	404	404	
Hay.	34								34		34	34	
Hides and leather.													
Household goods.	5	13						5	5	18	23	5	18
Iron, pig and bloom.													
Iron and steel, all other.	7	6							7	6	13	11	2
Live stock.													
Merchandise.	5,592	4,051						20	5,592	4,071	9,663	9,634	29
Oats.													
Other mill products.		10								10	10		10
" packing house products.													
" woods.			300						300		300	300	
Ore, all other.													
" copper.													
" iron.													
Peas.													
Petroleum.	39	35							39	35	74	61	13
Poultry, game and fish.													
Potatoes.													
Pulpwood.													
Rye.													
Sawed lumber.	6								6		6	6	







TABLE 7 No. 11.—GENERAL STATEMENT showing the Quantity of each Article Transported on the Ottawa canals during the Season of Navigation in 1912.

Articles..	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		adian.	United States.
Agricultural implements..	136	12							136	12	148	148	
All other animal .....	87	1,860							87	1,860	1,947	1,947	
Barley .....	4								4		4	4	
Buckwheat.....	3,165	166							2,165	166	2,331	2,331	
Cement, bricks, &c.....								1,801	1,801		1,801		1,801
Coal, hard.....	29,968						1,036		31,004		31,004	29,968	1,036
" soft .....													
Coke.....	32								32		32	32	
Corn.....	1	10							1	10	11	11	
Dressed meats .....													
Flax.....	363	22							363	22	385	385	
Flour.....	134	186							134	186	320	320	
Fruits and vegetables .....		2,580				568				3,148	3,148		
Hay .....													
Hides and leather .....	264	77							264	77	341	341	
Household goods .....	1,054	11							1,054	11	1,065	1,065	
Iron, pig and bloom.....	1,247	10							1,247	10	1,257	1,257	
Iron and steel, all other .....	41	499							41	499	540	540	
Live stock.....	7,346	3,294					898		8,244	3,294	11,538	10,640	898
Merchandise.....	61	5							61	5	66	66	
Oats .....	232	529							232	529	761	761	
Other mill products.....	262	83							262	83	345	345	
" packing house products .....	4	18,779							4	18,779	18,783	18,783	
" woods .....	5,100								5,100		5,100		5,100
Ore, all other.....													
" copper.....													
" iron .....	2								2		2	2	
Pease.....	616	138							616	138	754	754	
Petroleum.....		57								37	37	37	
Poultry, game and fish.....	27	439							27	439	466	466	
Potatoes .....													
Pulpwood.....													
Rye.....													
Sand .....		98,729								98,729	98,729	98,729	



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Saved lumber.....	367	154,409	51,318	367	205,727	206,094	206,094	206,094
Shingles.....	120	120	120	120	120	120	120	120
Square timber.....	3	1,600	3	3	1,600	1,603	1,603	1,603
Sugar.....	1,111	28	1,111	1,111	28	1,139	1,139	1,139
Salt.....	1,465	6	1,465	1,465	6	1,471	1,471	1,471
Wheat.....	94	94	94	94	94	94	94	94
Wines, liquors and beers.....	906	8	906	906	8	914	914	914
Wool.....	.....	.....	.....	.....	.....	.....	.....	.....
<b>Total freight.....</b>	<b>53,092</b>	<b>283,637</b>	<b>51,886</b>	<b>56,827</b>	<b>335,523</b>	<b>342,350</b>	<b>383,515</b>	<b>8,835</b>



TABLE No. 7, No. 12.---GENERAL STATEMENT showing the Quantity of each article transported on the Rideau canal during the Season of Navigation in 1912.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.		Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.			Canadian.	United States.
Agricultural implements.....	524	352							524	352	876		876	
All other animals.....	411	1,706							411	1,706	2,117		2,117	
Barley.....	2	28							2	28	30		30	
Buckwheat.....	4	1							4	1	5		5	
Cement, bricks, &c.....	1,336	295							1,336	295	1,631		1,631	
Coal, hard.....	681	82							681	82	7,525		65	7,460
" soft.....	1,197	299							1,197	299	7,141		1,431	5,710
Coke.....		2								2	2		2	
Corn.....	9	69							9	69	78		78	
Dressed meats.....	97	104							97	104	201		201	
Flax.....														
Flour.....	171	300							171	300	471		471	
Fruits and vegetables.....	171	173							171	173	344		344	
Hay.....	1,072								1,072		1,072		1,072	
Hides and leather.....	22	15							22	15	37		37	
Household goods.....	335	205							335	205	540		540	
Iron, pig and bloom.....	766	137							766	137	903		903	
Iron and steel, all other.....	827	156							827	156	983		983	
Live stock.....	11	9							11	9	20		20	
Merchandise.....	6,941	2,448							6,941	2,448	9,389		9,389	
Oats.....	68	456							68	456	524		524	
Other mill products.....	311	332							311	332	643		643	
" packing house products.....	452	276							452	276	728		728	
" woods.....	2,621	845							2,621	845	3,466		3,466	
Ore, all other.....	1,480	805		170					1,480	975	2,455		2,455	
" copper.....														
" iron.....	2	4							2	4	6		6	
Peas.....	1	6							1	6	7		7	
Petroleum.....	585	376							585	376	961		961	
Poultry, game and fish.....	27	7							27	7	34		34	
Potatoes.....	53	32							53	32	85		85	
Pulpwood.....	45	1,224							45	1,224	1,269		1,269	
Rye.....	1								1		1		1	
Sand.....	49,735	38,667							49,735	38,667	88,402		88,402	



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Sawed lumber..	5,439	18,077						18,077	23,516	23,516	
Shingles.....	180	12						12	192	192	
Square timber. ....	9	190						190	199	199	
Sugar .....	405	175						175	580	580	
Salt.....	1,575	232						232	1,807	1,807	
Wheat.....	25	710						710	735	735	
Wines, liquors and beers.....	973	171						171	1,144	1,144	
Wool.....	6	8						8	14	14	
Total freight.....	78,570	68,986	170				12,407	81,563	160,133	146,963	13,170



TABLE 7, No. 13.—GENERAL STATEMENT showing the Quantity of each Article Transported on the Trent Valley canals during the Season of Navigation in 1912.

Articles.	From Canadian to Canadian Ports.		From Canadian to American Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	United States.
Agricultural implements.	20	21							20	21	41	41	
All other animals	33	59							33	59	92	92	
Barley..	4								4		4	4	
Buckwheat	1	236							1	236	237	237	
Oement, bricks, &c.	494	1,118							494	1,118	1,612	1,612	
Coal, hard.	109	29							109	29	138	138	
" soft	142	30							142	30	172	172	
Coke.....													
Corn.....													
Dressed meats.	1								1		1	1	
Flax.....													
Flour..	64	35							64	35	99	99	
Fruits and vegetables	14								14		14	14	
Hay .....	161								161		161	161	
Hides and leather	2								2		2	2	
Household goods.	46	82							46	82	128	128	
Iron, pig and bloom.	4	62							4	62	66	66	
Iron and steel, all other.	6								6		6	6	
Live stock.....	224	42							224	42	266	266	
Merchandise.	946	557							946	557	1,503	1,503	
Oats.....	131								131		131	131	
Other mill products.	53	126							53	126	179	179	
" packing house products.													
" woods	20,550	21,143							20,550	21,143	41,693	41,693	
Ore, all other.	164	2,499							164	2,499	2,663	2,663	
" copper.													
" iron.....		5								5	5	5	
Peas.....	45								45		45	45	
Petroleum..	48	3							48	3	51	51	
Poultry, game and fish.													
Potatoes	111	2							111	2	113	113	
Pulpwood.	1,731	19,584							1,731	19,584	21,315	21,315	
Rye.....	1								1		1	1	
Sand	349								349		349	349	



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Sawed lumber.....	982	1,748					982	1,748	2,730	2,730
Shingles.....	54	91					54	91	145	145
Square timber.....	1,039	567					1,039	567	1,606	1,606
Sugar.....	24	5					24	5	29	29
Salt.....										
Wheat.....	1,530						1,530		1,530	1,530
Wines, liquors and beers.....	18	5					18	5	23	23
Wool.....										
Total freight.....	29,101	48,049					29,101	48,049	77,150	77,150



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TABLE 7, No. 14.—GENERAL STATEMENT showing the Quantity of each Article Transported on the St. Andrews canal during the Season of Navigation in 1912.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	United States.
Agricultural implements.											5		
All other animal.													
Barley.													
Buckwheat.													
Cement, bricks, &c.													
Coal, hard.	410	156							410	156	566	566	
" soft.													
Cake.													
Corn.													
Dressed meats.													
Flax.													
Flour.		16								16	16	16	
Fruits and vegetables.													
Hay.										5	5	5	
Hides and leather.													
Household goods.		12								12	12	12	
Iron, pig and bloom.													
Iron and steel, all other.		2								2	2	2	
Live stock.													
Merchandise.		41								41	41	41	
Oats.		5								5	5	5	
Other mill products.													
" packing house products.													
" woods.	5,154								5,154		5,154	5,154	
Ore, all other.													
" copper.													
" iron.													
Peas.													
Petroleum.													
Poultry, game and fish.													
Potatoes.	11								11		11	11	
Pulpwood.		6,822								6,822	6,822	6,822	







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TABLE 8.—STATEMENT showing the Classified Tonnage of all kinds of Vessels

SAULT STE.

CANADIAN.							
Class.	Steam Vessels.	No.	Tonnage.	Class.	Sailing Vessels.	No.	Tonnage.
1	5,000 to 5,142 tons.....	1	5,142	1	5,000 to ——— tons.....		
2	4,000 " 5,000 " .....	2	8,900	2	4,000 " 5,000 " .....		
3	3,000 " 4,000 " .....	2	6,800	3	3,000 " 4,000 " .....		
4	2,000 " 3,000 " .....	10	23,900	4	2,000 " 3,000 " .....		
5	1,000 " 2,000 " .....	70	90,000	5	1,000 " 2,000 " .....		
6	Under 1,000.....	52	13,550	6	Under 1,000.....	20	3,305
	Total.....	137	148,292		Total .....	20	3,305

WELLAND

1	250 to 1,667 tons.....	86	89,525	1	250 to 1,239 tons.....	23	15,125
2	200 " 249 " .....	3	625	2	200 " 249 " .....	2	400
3	150 " 199 " .....	2	325	3	150 " 199 " .....	1	150
4	100 " 149 " .....	6	675	4	100 " 149 " .....	6	600
5	50 " 99 " .....	4	330	5	50 " 99 " .....	4	310
6	Under 50 " .....	24	555	6	Under 50 " .....	3	30
	Total.....	125	92,035		Total.....	39	16,615

ST. LAWRENCE

1	250 to 1,597 tons.....	102	92,390	1	250 to 1,297 tons.....	93	44,610
2	200 " 249 " .....	5	1,050	2	200 " 249 " .....	16	3,300
3	150 " 199 " .....	7	1,150	3	150 " 199 " .....	45	7,740
4	100 " 149 " .....	13	1,880	4	100 " 149 " .....	70	8,150
5	50 " 99 " .....	37	2,590	5	50 " 99 " .....	50	3,630
6	Under 50 " .....	71	1,415	6	Under 50 " .....	10	325
	Total.....	235	100,475		Total.....	284	67,755

RIDEAU, OTTAWA

1	250 to 371 tons.....	5	1,520	1	250 to 370 tons.....	4	1,200
2	200 " 249 " .....	1	220	2	200 " 249 " .....	8	1,660
3	150 " 199 " .....	8	1,360	3	150 " 199 " .....	37	6,080
4	100 " 149 " .....	8	900	4	100 " 149 " .....	35	4,230
5	50 " 99 " .....	14	975	5	50 " 99 " .....	18	1,310
6	Under 50 " .....	55	820	6	Under 50 " .....	17	295
	Total.....	91	5,795		Total.....	119	14,775



SESSIONAL PAPER No. 20a

passed through the following canals during the Season of Navigation, 1912.

MARIE CANAL.

UNITED STATES.									
Class.	Steam Vessels.		No.	Tonnage.	Class.	Sailing Vessels.		No.	Tonnage.
1	5,000	to 6,498 tons.....	70	384,498	1	5,000	to — tons .....		
2	4,000	" 5,000 " .....	89	406,400	2	4,000	" 5,000 " .....		
3	3,000	" 4,000 " .....	132	453,600	3	3,000	" 4,000 " .....	2	7,000
4	2,000	" 3,000 " .....	37	98,400	4	2,000	" 3,000 " .....		
5	1,000	" 2,000 " .....	44	71,100	5	1,000	" 2,000 " .....		
6	Under	1,000 " .....	24	7,890	6	Under	1,000 " .....	8	3,450
Total.. . . . .			396	1,421,888	Total.. . . . .			10	10,450

CANAL.

1	250 to 2,053 tons.....	70	73,550	1	250 to 2,052 tons.....	9	7,875
2	200 " 249 " .....	2	400	2	200 " 249 " .....	3	600
3	150 " 199 " .....	5	850	3	150 " 199 " .....	2	300
4	100 " 149 " .....	3	325	4	100 " 149 " .....	2	225
5	50 " 99 " .....	14	940	5	50 " 99 " .....	2	110
6	Under 50 " .....	6	700	6	Under 50 " .....	3	75
Total.. ..		100	76,765	Total.. ..		21	9,185

CANAL.

1	250 to 1,919 tons.....	38	37,800	1	250 to 756 tons... ..	8	3,766
2	200 " 249 " .....	1	240	2	200 " 249 " .....	1	210
3	150 " 199 " .....	2	310	3	150 " 199 " .....	1	160
4	100 " 149 " .....	2	210	4	100 " 149 " .....	122	12,790
5	50 " 99 " .....	12	830	5	50 " 99 " .....	41	4,095
6	Under 50 " .....	18	215	6	Under 50 " .....		
Total.. ..		73	39,605	Total.. ..		173	21,021

AND CHAMBLY CANALS.

1	250 to — tons.....			1	250 to — tons .....		
2	200 " 249 " .....			2	200 " 249 " .....		
3	150 " 199 " .....			3	150 " 199 " .....	10	1,680
4	100 " 149 " .....			4	100 " 149 " .....	170	18,710
5	50 " 99 " .....			5	50 " 99 " .....	429	40,380
6	Under 50 " .....	1	15	6	Under 50 " .....		
Total.. ..		1	15	Total.. ..		609	60,770







APPENDIX

DOMINION CANALS

The canal systems of the Dominion, under government control in connection with lakes and navigable rivers, are as follows:—

*First—The through route between Montreal and the head of Lake Superior (14 feet minimum depth of water.)*

	Miles.
1. Lachine canal.. . . . .	8½
Lake St. Louis and River St. Lawrence.. . . . .	16
2. Soulanges canal.. . . . .	14
Lake St. Francis and River St. Lawrence.. . . . .	31
3. Cornwall canal.. . . . .	11¼
River St. Lawrence.. . . . .	5
4. Farran's Point canal.. . . . .	1½
River St. Lawrence.. . . . .	9½
5. Rapide Plat canal.. . . . .	3¾
River St. Lawrence.. . . . .	4
6. Galops canal.. . . . .	7½
River St. Lawrence and Lake Ontario.. . . . .	228
7. Welland canal.. . . . .	26¾
Lake Erie, Detroit river, Lake St. Clair, Lake Huron, &c.	574
8. Sault Ste. Marie canal.. . . . .	1¼
Lake Superior to Port Arthur.. . . . .	272
Total.. . . . .	1,214
To Duluth.. . . . .	1,336
Chicago.. . . . .	1,240

*Second.—Ottawa to Lake Champlain.*

1. Grenville. 2. Carillon. 3. St. Anne's. 4. Chambly. 5. St. Ours canals.

*Third.—Ottawa to Kingston and Perth.*

1. Rideau canal.

*Fourth.—Lake Ontario at Trenton to Lake Huron at mouth of River Severn.*

1. Trent canal (not completed).

*Fifth.—Ocean to Bras d'Or lakes.*

1. St. Peter's canal.



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## RIVER ST. LAWRENCE AND LAKES.

The River St. Lawrence with the system of canals established on its course above Montreal, and the Lakes Ontario, Erie, St. Clair, Huron and Superior, with connecting canals, afford a course of water communication extending from the Straits of Belle Isle to Port Arthur, at the head of Lake Superior, a distance of 2,217 statute miles. The distance to Duluth is 2,339 statute miles. The distance to Chicago, 2,243 miles.

From the Straits of Belle Isle, at the mouth of the St. Lawrence, to Montreal, the distance is 1,003 miles. From Quebec to Montreal, the distance is 160 miles. Owing to the shallowness of the waters on a portion of the river between these two places, particularly through Lake St. Peter, vessels drawing more than from ten to twelve feet were formerly barred from passage for the greater part of the season of navigation. In 1826, the question of deepening the channel was first definitely mooted, but it was not until 1844 that any dredging operations were begun. In that year, the deepening of a new straight channel was commenced, but the scheme was abandoned in 1847. In 1851 the deepening of the present channel was begun. At that time the depth of the channel at low water was 10 feet 6 inches. By the year 1869, this depth had been increased to 20 feet, by 1882 to 25 feet, and by the close of 1888 the depth of 27½ feet, at low water, was attained for a distance of 108 miles from Montreal to a point within tidal influence. This work is now being continued by the government of Canada, which in 1888, under the provisions of the Act 51 Vic., ch. 5, of that year, assumed the indebtedness. The channel has a minimum width of 300 feet, extending to 550 feet at points of curvature. The channel is lighted and buoyed.

Navigation, which is closed by ice during the winter months, opens about the end of April.

Montreal has by this work been placed at the head of ocean navigation, and here the canal systems of the River St. Lawrence begin, overcoming the various rapids by which the river channel upwards is obstructed, and giving access through the St. Lawrence canals, the Welland canal, the great lakes and the Sault Ste. Marie canal, to the head of Lake Superior.

The difference in level between the point on the St. Lawrence, near Three Rivers, where tidal influence ceases, and Lake Superior is about 600 feet.

The Dominion canals, constructed between Montreal and Lake Superior, are the Lachine, Soulanges, Cornwall, Farran's Point, Rapide Plat, Galops, Murray, Welland and Sault Ste. Marie. Their aggregate length is 74 miles; total lockage (or height directly overcome by locks), 553½ feet. The number of locks through which a vessel would pass in its passage from Montreal, at the head of ocean navigation, to the head of Lake Superior is 48. The Soulanges canal takes the place of the Beauharnois canal; the latter may be abandoned for navigation purposes.

Communication between Lakes Huron and Superior is obtained by means of the Canadian Sault Ste. Marie canal, and also by the St. Mary's Falls canal, situated on the United States side of the River St. Mary. Both these canals are free of toll.

It is important to note that the enlargement of the canals on the main route between Montreal and Lake Erie comprises locks of the following minimum dimensions: Length, 270 feet; width, 45 feet; depth of water on sills, 14 feet. The length of the vessels to be accommodated is limited to 255 feet. At Farran's, in the canal of that name, the lock is 800 feet long. A similar lock is built at Iroquois on the Galops canal, the object being to pass a full tow at one lockage.



## SESSIONAL PAPER No. 20a

## LACHINE CANAL.

First construction commenced.....	1821
"                    completed.....	1825
First enlargement commenced.....	1843
"                    completed.....	1848
Second enlargement commenced.....	1873
"                    completed.....	1901
Length of canal.....	8½ statute miles.
Number of locks.....	5
Dimensions of locks.....	270 feet by 45 feet.
Total rise of lockage.....	45 feet.
Depth of water } at two locks.....	18 "
on sills.     } at three locks.....	14 "
Average width of new canal.....	150 "

The old lift locks, 200 feet by 45 feet, are still available, with 9 feet of water on mitre sills.

The canal consists of one channel, with two distinct systems of locks, the old and the enlarged. There are two lock entrances at each end.

The canal extends from the city of Montreal to the town of Lachine, overcoming the St. Louis rapids, the first of the series of rapids which bars the ascent of the River St. Lawrence. They are 1,006 miles distant from the Straits of Belle Isle.

## SOULANGES CANAL.

Construction commenced.....	1892
Open for traffic.....	1899
Length of canal.....	14 statute miles.
Number of locks } lift.....	4
} guard.....	1
Dimensions of locks.....	280 feet by 45 feet.
Total rise of lockage.....	84 feet
Depth of water on sills.....	15 "
Breadth of canal at bottom.....	100 "
Breadth of canal at water surface.....	164 "
Number of arc lights.....	219 of 2,000 c. p. each.

The canal extends from Cascade point to Coteau Landing, overcoming the Cascade Rapids, Cedar rapids and Coteau rapids.

From the head of the Lachine to the foot of the Soulanges, the distance is sixteen miles.

## CORNWALL CANAL.

First commenced, 9 feet.....	1844
" opened.....	1847
Enlargement commenced.....	1897
" completed.....	1900
Length of canal.....	11 statute miles.
Number of locks.....	6
Dimensions of locks.....	270 feet by 75 feet.
Total rise of lockage.....	48 feet.
Depth of water on sills.....	14 "
Breadth of canal at bottom.....	90 "
Breadth of canal at water surface.....	154 "



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The old lift locks, 200 feet by 55 feet, are also available, with nine feet of water on mitre sills.

From the head of the Soulanges to the foot of the Cornwall canal there is a stretch through Lake St. Francis, of 31 miles, which is being made navigable for vessels drawing fourteen feet.

The Cornwall canal extends past the Long Sault rapids from the town of Cornwall to Dickinson's landing.

WILLIAMSBURG CANALS.

The Farran's Point, Rapide Plat and Galops canals are collectively known as the Williamsburg Canals.

FARRAN'S POINT CANAL.

First commenced, 9 feet .. .. .	1844
"    opened .. .. .	1847
Enlargement commenced.. .. .	1897
"    completed.. .. .	1900
Length of canal.. .. .	1½ miles.
Number of locks .. .. .	1
New lock .. .. .	800 feet by 45 feet
Old lock .. .. .	200       "
Total rise or lockages .. .. .	3½ feet.
Depth of water on sills of new lock .. .. .	14   "
Depth of water on sills of old lock .. .. .	9   "
Breadth of canal at bottom .. .. .	90   "
Breadth of canal at water surface.. .. .	154   "

From the head of the Cornwall canal to the foot of Farran's Point canal, the distance on the River St. Lawrence is five miles. The latter canal enables vessels ascending the river to avoid Farran's Point rapid, passing the full tow at one lockage. Descending vessels run the rapids with ease and safety.

RAPIDE PLAT CANAL.

First commenced, 9 feet .. .. .	1844
"    opened .. .. .	1847
Enlargement commenced .. .. .	1884
"    completed .. .. .	1897
Length of canal.. .. .	3¾ miles. .
Number of locks .. .. .	2
Dimensions of locks .. .. .	270 feet by 45 feet.
Total rise in lockage.. .. .	11½ feet.
Depth of water on sills.. .. .	14   "
Breadth of canal at bottom.. .. .	80   "
Breadth of canal at surface of water. .. .. .	152   "

The old lift lock, 200 feet by 45, is also available, with nine feet of water on mitre sills.

From the head of Farran's Point canal to the foot of Rapide Plat canal, there is a navigable stretch of 9½ miles. This canal was formed to enable vessels ascending the river to pass the rapids at that place. Descending vessels run the rapids safely.



SESSIONAL PAPER No. 20a

GALOPS CANAL.	
First commenced, 9 feet.....	1844
Opened.....	1846
Enlargement commenced.....	1888
“ completed.....	1903
Length of canal.....	7¾ miles.
Number of locks.....	3
Dimensions of locks. { one of which is {	{ 800 by 50.
{ a guard lock. }	{ 270 by 45.
	{ 303 by 45.
Total rise of lockage.....	15½ feet.
Depth of water on sills.....	14 “
Breadth of canal at bottom.....	80 “
Breadth of canal at surface of water.....	144 “

From the head of Rapide Plat canal to Iroquois, at the foot of the Galops canal, the St. Lawrence is navigable 4½ miles. The canal enables vessels to overcome the rapids at Pointe aux Iroquois, Point Cardinal and the Galops.

MURRAY CANAL.	
Construction begun.....	1882
Completed.....	1890
Length between eastern and western pier heads.....	5½ miles.
Breadth at bottom.....	80 feet.
Breadth at water surface.....	124
Depth below lowest known lake level.....	11
No locks.	

This canal extends through the Isthmus of Murray, giving connection westward between the head waters of the Bay of Quinte and Lake Ontario, and thus enabling vessels to avoid the open lake navigation.

WELLAND CANAL.		
Main line from Port Dalhousie, Lake Ontario, to Port Colborne, Lake Erie.		
	Old Line.	Enlarged or New Line.
Length of canal.. . . . .	27½ miles	26¾ miles
Pairs of guard-gates (formerly 3) ..	2	1
Number of locks {	lift..... 26	25
	guard..... 1	1
Dimensions..... {	1 lock 270 x 45	} 270 feet x 45 feet.
	1 lock 200 x 45	
	1 (tidal) 230 x 45	
	24 locks 150 x 26 ft. 6in.	
Total rise or lockage .....	326¾ feet	326¾ feet.
Depth of water on sills.. . . .	10½ “	14 “
Construction commenced, 8 feet.. . . .		1824
“ Completed.. . . .		1833
Enlargement commenced, 14 feet.. . . .		1872
“ completed.. . . .		1887



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WELLAND RIVER BRANCHES.

Length of canal—	
Port Robinson cut to River Welland .. . . .	2,622 feet.
From the canal at Welland to the river, via lock at Aqueduct .. . . .	300 “.
Chippewa cut to River Niagara.. . . .	1,020 “
Number of locks—one at Aqueduct and one at Port Robinson.. . . .	2
Dimensions of locks.. . . .	150 by 26½ feet.
Total lockage from the canal at Welland down to River Welland.. . . .	10 feet.
Depth of water on sills.. . . .	9 feet 10 inches.

GRAND RIVER FEEDER.

Length of canal .. . . .	21 miles.
Number of locks.. . . .	2
Dimensions of locks. ....	} 1 of 150 by 26½ feet. 1 of 300 by {45 “ 28 “
Total rise or lockage .. . . .	
Depth of water on sills.. . . .	10 feet. 9 feet.

PORT MAITLAND BRANCH.

Length of canal .. . . .	1¾ miles.
Number of locks.. . . .	1
Dimensions of locks .. . . .	185 feet by 45 feet.
Total rise or lockage ...	7 feet.
Depth of water on sills.. . . .	7½ feet.

The Welland canal has two entrances from Lake Ontario, at Port Dalhousie, one for the old, the other for the new canal.

From Port Dalhousie to Allanburg, 11¾ miles, there are two distinct lines of canal in operation, the old line and the enlarged or new line.

From Allanburg to Port Colborne, a distance of 15 miles, there is only one channel, the old canal having been enlarged.

From the head of the Welland canal there is a deep water navigation through Lake Erie, the Detroit river, Lake St. Clair, the St. Clair river, Lake Huron and River St. Mary to the Sault canal, a distance of about 580 miles. From the Sault the distance through Lake Superior to Port Arthur is 271 miles, and to Duluth 327 miles.

SAULT STE. MARIE CANAL.

Construction commenced.. . . .	1888
Opened for traffic.. . . .	1895
Length of canal, between the extreme ends of the entrance piers.. . . .	7,472 feet.
Number of locks.. . . .	1
Dimensions of locks.. . . .	900 feet by 60 feet.
Depth of water on sills (at lowest known water level) .. . . .	18 feet 3 inches.
Total rise or lockage.. . . .	18 feet.
Breadth of canal at bottom .. . . .	141 feet 8 inches.
Breadth at surface of water .. . . .	150 feet.



## SESSIONAL PAPER No. 20a

This canal has been constructed through St. Mary's island, on the north side of the rapids of the River St. Mary, and, with that river, gives communication on Canadian territory between Lakes Huron and Superior. The masonry pier of the bridge carrying the Canadian Pacific Railway over the canal, which stood in the channel of the canal, forming an obstruction to navigation, has been removed; the swing now spanning the full width of the channel or prism of the canal.

## MONTREAL, OTTAWA AND KINGSTON.

This route extends from the harbour of Montreal to the port of Kingston, passing through the Lachine canal, the navigation section of the lower River Ottawa, and the Ottawa canals, to the city of Ottawa; thence by the River Rideau and the Rideau canal to Kingston, on Lake Ontario—a total distance of 245½ miles.

After leaving the Lachine canal the works constructed to overcome difficulties of navigation are:—

*Ottawa River Canals.*

The Ste. Anne's lock.  
Carillon canal.

Grenville canal.  
Rideau canal.

The total lockage (not including that of the Lachine canal) is 509 feet (345 rise, 164 fall)—and the number of locks is 55.

The following table exhibits the intermediate distances from Montreal harbour:—

Sections of Navigation.	Interme- diate Distance.	Total Distance, from Montreal.
	Miles.	Miles.
The Lachine canal.....	8½	
From Lachine to Ste. Anne's lock.....	15	23½
Ste. Anne's lock and piers.....	1	23½
Ste. Anne's lock to Carillon canal.....	27	50½
The Carillon canal.....	1	51½
The Carillon to Grenville canal.....	6½	57½
The Grenville canal.....	5½	63½
From the Grenville canal to entrance of Rideau navigation.....	56	119½
Rideau navigation ending at Kingston.....	126	245½

## STE. ANNE'S LOCK.

Construction commenced.....	1814.
“ completed.....	1816
Rebuilt of wood.....	1833
“ in masonry.....	1843.

	Old Lock.	New Lock.
Length of canal.....	⅓ mile.	⅓ mile.
Number of locks.....	1	1
Dimensions of locks.....	190 x 45 feet.	200 x 45 feet.
Total rise or lockage.....	3 feet.	3 feet.
Depth of water on sills.....	6 “	9 “

This work, with guide piers above and below, surmounts the Ste. Anne's rapids between Ile Perrot and the head of the Island of Montreal, at the outlet of that portion of the River Ottawa which forms the Lake of Two Mountains, 23½ miles from Montreal harbour.



THE CARILLON CANAL.

Construction commenced.. . . . .	1819
“ completed.. . . . .	1833
Enlargement commenced.. . . . .	1871
“ completed.. . . . .	1887
Length of canal.. . . . .	$\frac{3}{4}$ mile.
Number of locks.. . . . .	2
Dimensions of locks.. . . . .	200 x 45 feet.
Total rise or lockage.. . . . .	16 feet.
Depth of water on sills.. . . . .	9 “
Breadth of canal at bottom.. . . . .	100 “
Breadth of canal at water surface.. . . . .	110 “

This canal overcomes the Carillon rapids.

From Ste. Anne’s lock to the foot of the Carillon canal there is navigable stretch of 27 miles, through the Lake of Two Mountains and the River Ottawa.

By the construction of the Carillon dam across the River Ottawa the water at that point is raised 9 feet, enabling the river above to be used for navigation.

GRENVILLE CANAL.

Construction commenced.. . . . .	1819
“ completed.. . . . .	1833
Enlargement commenced.. . . . .	1871
“ completed.. . . . .	1887
Length of canal.. . . . .	$5\frac{3}{4}$ miles.
Number of locks.. . . . .	5
Dimensions of locks.. . . . .	200 x 45 feet.
Total rise or lockage.. . . . .	$43\frac{3}{4}$ feet.
Depth of water on sills.. . . . .	9 “
Breadth of canal at bottom.. . . . .	40 to 50 feet.
Breadth of canal at surface of water.. . . . .	50 to 80 “

This canal, by which the Long Sault rapids are avoided, is about 56 miles below the city of Ottawa, up to which point the River Ottawa affords unimpeded navigation.

RIDEAU NAVIGATION.

Construction commenced.. . . . .	1826
“ completed.. . . . .	1832

The Rideau system connects the River Ottawa, at the city of Ottawa, with the eastern end of Lake Ontario, at Kingston.

Length of navigation waters.. . . . .	126 $\frac{1}{4}$ miles.
Number of locks going from Ottawa to Kingston. {	35 ascending. 14 descending.
Total lockage.....457 $\frac{1}{2}$ feet {292 $\frac{1}{4}$ rise and 165 $\frac{1}{4}$ fall }	at low water.
Dimensions of locks.. . . . .	134 x 33 feet.
Depth of water on sills.. . . . .	5 feet.
Navigation depth through the several reaches.. . .	5 “
Breadth of canal reaches at bottom.. . . . . {	60 feet in earth. 54 feet in rock.
Breadth of canal at surface of water.. . . . .	80 feet in earth.



PERTH BRANCH.

Construction commenced.. . . . .	1883
“ completed.. . . . .	1892
Length of canal.. . . . .	7 miles.
Number of locks.. . . . .	2
Dimensions of locks.. . . . .	134 feet x 33 feet.
Total rise or lockage.. . . . .	26 “
Depth of water on sills.. . . . .	5 “ 6 inches.
Length of dam.. . . . .	200 “
Breadth of canal at bottom.. . . . .	{ 40 “ in rock. 60 “ in clay.
Breadth of canal at surface of water.. . . . .	80 “

The Perth branch of the Rideau canal affords communication between Beveridge’s bay, on Lake Rideau and the town of Perth.

The summit level of the Rideau system is at upper Lake Rideau, but several of the descending reaches are also supplied by waters which have been made tributary to them. The following description gives the sources of supply:—

From the summit, the route towards Ottawa follows the Rideau river, and that towards Kingston follows the River Cataraqui. The supply of water for the canal is derived from the reserves given in detail below.

These may be divided into three systems, viz.:—

- 1. The summit level, supplied by the Wolfe lake system.
- 2. The eastern descending level to Ottawa, supplied by the River Tay system, discharging into Lake Rideau.
- 3. The southwest descending level to Kingston, supplied by the Mud lake system formerly known as the Devil lake system, discharging into Lake Openicon.

Lake Openicon receives the waters of Buck lake and Rock lake.

All these waters on the descending level, supplemented by those of Lake Loughboro’, flow into Cranberry lake, which, discharging through Round Tail outlet, forms the River Cataraqui. The river, rendered navigable by dams at various points, affords a line of navigation to Kingston.

RICHELIEU AND LAKE CHAMPLAIN.

This system, commencing at Sorel, at the confluence of the Rivers St. Lawrence and Richelieu, 46 miles below Montreal, extends along the River Richelieu, through the St. Ours lock to the basin of Chambly; thence, by the Chambly canal, to St. Johns, and up the River Richelieu to Lake Champlain. The distance from Sorel to the boundary line is 81 miles.

At Whitehall, the southern end of Lake Champlain is entered, and connection is obtained with the River Hudson, by which the city of New York is directly reached. From the boundary line to New York the distance is 330 miles.

The following table shows the distances between Sorel and New York:—

Section of Navigation.	Interme- diate Distance.	Total Distances.
	Miles.	Miles.
Sorel to St. Ours lock.. . . . .	14	14
St. Ours lock to Chambly canal.. . . . .	32	46
Chambly canal.. . . . .	12	58
Chambly canal to boundary line.. . . . .	23	81
Boundary line to Champlain canal.. . . . .	111	192
Champlain canal to junction with Erie canal . . . . .	66	258
Erie canal, from junction to Albany. . . . .	7	265
Albany to New York.. . . . .	146	411



ST. OURS LOCK DAM.

Construction commenced.. . . . .	1844
“ completed.. . . . .	1849
Length.. . . . .	$\frac{1}{8}$ mile.
Number of locks.. . . . .	1
Dimensions of lock.. . . . .	200 feet by 45 feet.
Total rise of lockage.. . . . .	5 feet.
Depth of water on sills.. . . . .	7 feet at low water.
Length of dam in eastern channel.. . . . .	300 “
Length of dam in western channel.. . . . .	690 “

At St. Ours, 14 miles from Sorel, the River Richelieu is divided by a small island into two channels. The St. Ours lock is in the eastern channel.

There is a navigable depth in the Richelieu of 7 feet between St. Ours lock and Chambly basin, a distance of 32 miles.

CHAMBLY CANAL.

Construction commenced.. . . . .	1831
“ completed.. . . . .	1843
Length of canal.. . . . .	12 miles.
Number of locks.. . . . .	9
Dimensions of locks:—	
Guard lock, No. 1 at St. Johns.....	122 feet.
Lift “ 2 .....	124 “
“ “ 3, 4, 5, 6 .....	118 “
“ “ 7, 8, 9 combined .....	125 “
Total rise or lockage.. . . . .	74 “
Depth of water on sills.. . . . .	$6\frac{1}{2}$ “
Breadth of canal at bottom.. . . . .	36 “
Breadth of canal at surface of water.. . . . .	60 “

This canal succeeds the 32 miles of navigable water between St. Ours lock and Chambly basin. The canal overcomes the rapids between Chambly and St. Johns.

TRENT CANAL.

The term ‘Trent canal’ is applied to a series of water stretches, which do not, however, form a connected system of navigation, and which, in their present condition, are efficient only for local use. By various works this local use has been extended, and by others, now in progress and contemplation, this will become a through route between Lake Ontario and Lake Huron.

The series is composed of a chain of lakes and rivers, extending from Trenton, at the mouth of the River Trent, on the Bay of Quinté, Lake Ontario, to Lake Huron.

Many years ago the utilizing of these waters for the purpose of through water communication between Lake Huron and Lake Ontario was projected.

The course, as originally contemplated and modified, is as follows:—

Through the River Trent, Rice lake, the River Otonabee and Lakes Clear, Stony, Lovesick, Deer, Buckhorn, Chemong, Pigeon, Sturgeon and Cameron to Lake Balsam, the summit water, about 155 miles from Trenton; from Lake Balsam by a canal and the River Talbot to Lake Simcoe; thence by the River Severn to Georgian bay, Lake Huron; the total distance being about 200 miles, of which only about 15 or 20 miles will be actual canal.

The full execution of the scheme, commenced by the Imperial Government in 1837, was deferred. By certain works, however, below specified, sections of these



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waters have been made practicable for navigation, and the whole scheme is now being carried out. A branch of the main route, extending from Sturgeon lake south, affords communication with the town of Lindsay, and, through Lake Scugog to Port Perry, a distance of 174 miles from Trenton.

The following table gives the distance of navigable and unnavigable reaches:—

From Trenton, Bay of Quinté to Nine Mile rapids ..	—	9
Nine Mile rapids to Percy landing.. . . .	19½	—
Percy landing to Heeley's Falls dam.. . . .	—	14½
Heeley's Falls dam to Peterborough.. . . .	51½	—
Peterborough to Lakefield.. . . .	—	9½
Lakefield to a point across Balsam lake.. . . .	61	—
	<hr/> 132½	<hr/> 33

Total distance, Bay of Quinté to a point across Balsam lake.. 165½

From Sturgeon point on Sturgeon lake, 48½ miles from Lakefield, the branch through the town of Lindsay to Port

Perry at the head of Lake Scugog.. . . . 27

The works by which the Trent navigation has been improved comprise canals, with locks and bridges, at Young's point, Burleigh rapids, Lovesick, Buckhorn rapids, Bobcaygeon, Fenelon falls and Rosedale; also dams at Lakefield, Young's point, Burleigh falls, Lovesick, Buckhorn, Bobcaygeon and Fenelon falls. By these works there is afforded communication between Lakefield, 9½ miles from Peterborough, and Balsam lake, the headwaters of the system; opening up a total of about 160 miles of direct and lateral navigation.

At Lakefield, 9½ miles from Peterborough, the dam at the head of the Nine Mile rapids of the River Otonabee maintains navigation on Lake Katchewanoe up to Young's point.

At Young's point, 5 miles from Lakefield, the dam between Lake Katchewanoe and Clear lake controls the water level through Clear and Stony lakes up to the foot of the Burleigh canal.

At Burleigh rapids, 10 miles from Young's point, a canal, about 2¼ miles in length, passes the Burleigh and Lovesick rapids, and gives communication between Stony lake and Deer bay.

At Buckhorn rapids, 7 miles from Burleigh rapids, there is a canal about one-fourth of a mile long.

At Bobcaygeon, 15½ miles from Buckhorn rapids, a dam, 553 feet long, controls the water level to Fenelon falls.

At Fenelon falls, 15 miles from Bobcaygeon, a canal about one-third of a mile in length connects Sturgeon lake with Cameron lake.

The following is a list of the locks, with their dimensions:—

1	Lock at Rosedale (maintained by the Ontario government), 100' x 30' x 4' 6" to 6' 6" depth water on mitre sill.		
2	Locks at Fenelon....	134' x 33' x 5' 0" to 7' 6" depth water on mitre sill.	
1	" Lindsay ..	134' x 33' x 5' 0" to 7' 6"	" "
1	" Bobcaygeon ..	134' x 33' x 5' 8" to 7' 0"	" "
1	" Buckhorn ..	134' x 33' x 5' 0" to 9' 0"	" "
1	" Lovesick ..	134' x 33' x 5' 0" to 9' 4"	" "
2	" Burleigh ..	134' x 33' x 6' 0" to 8' 0"	" "
1	" Young's point.	134' x 33' x 5' 0" to 14' 0"	" "
1	" Peterborough .	134' x 33' x 5' 0" to 10' 0"	" "
1	" Hastings ..	134' x 33' x 7' 0" to 10' 6"	" "
1	" Chisholms ..	134' x 33' x 5' 0" to 8' 6"	" "



ST. PETER'S CANAL, CAPE BRETON.

Construction commenced.. . . .	1854
“ completed.. . . .	1869
Enlargement begun.. . . .	1875
“ completed.. . . .	1881
Length of canal.. . . .	About 2,600 feet.
Breadth at water line.. . . .	50 feet.
Lock.. . . .	One tidal lock, 4 pairs of gates.
Dimensions.. . . .	200 feet by 48 feet.
Depth of water on sills.. . . .	18 feet at lowest water.
Depth through canal.. . . .	19 “
Extreme rise and fall of tide in St. Peter's bay.. . . .	7 “

This canal connects St. Peter's bay on the northern side of Cape Breton, Nova Scotia, with the Bras d'Or lakes. It crosses an isthmus half a mile in width, and gives access from the Atlantic.

BEAUHARNOIS CANAL.

Construction begun.. . . .	1842
“ completed.. . . .	1845
Length of canal.. . . .	12 statute miles.
Number of locks.. . . .	9
Dimensions of locks.. . . .	200 feet by 45 feet.
Total rise or lockage.. . . .	82½ “
Depth of water on sills.. . . .	9 “
Breadth of canal at bottom.. . . .	80 “
Breadth of canal at water surface.. . . .	120 “

As the new Soulanges canal is now opened for navigation, the Beauharnois canal is abandoned for navigation purposes.

EARLIER CANALS.

A system of three canals preceded the Bearharnois. These were:—

COTEAU DU LAC CANAL.

Construction commenced.. . . .	1779
“ completed.. . . .	1780

SPLIT ROCK CANAL.

Construction commenced.. . . .	1779
“ completed.. . . .	1780

CASCADE POINT CANAL.

Construction commenced.. . . .	1782
“ completed.. . . .	1783

The locks were 20 x 6 feet, and provided for a draft of 2 feet. In 1814 the work of widening them to 12 feet was begun, and finished in 1817.



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Two canals were also constructed off Burlington Bay, Ontario. They were:—

BURLINGTON BAY CANAL.

Construction commenced.. . . . .	1825
“ completed.. . . . .	1832

DESJARDINS CANAL.

Construction commenced.. . . . .	1826
“ completed.. . . . .	1837

Neither of these canals required locks. They have for many years been abandoned. The depth of water provided in the first instance was 7½ feet.



